THIRD SERIES VOL 59 NUMBER 12 OCTOBER 1952

THE JOURNAL OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

66 PORTLAND PLACE LONDON W1 · TWO SHILLINGS AND SIXPENCE

Casa de los Angeles, Salamanca: Cisneros group over first floor window.

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66 PORTLAND PLACE LONDON W1 : TELEPHONE: LANGHAM 5721-7 : TELEGRAMS: RIBAZO WESDO LONDON

Presentation of the Royal Gold Medal 1952

The Royal Gold Medal 1952 will be presented to Mr. G. Grey Wornum [*F*] at a General Meeting to be held on Wednesday 12 November at 6 p.m.

Examination in Professional Practice and Practical Experience

A special announcement on this subject is published on page 460 of this JOURNAL.

The A.B.S. Annual Ball

The annual ball in aid of the Architects' Benevolent Society Centenary Appeal Fund is to be held at the Dorchester Hotel on Wednesday 10 December, under the patronage of the President of the R.I.B.A., Mr. Howard Robertson, M.C., A.R.A. Tickets, which include an excellent sit-down supper, are £2 2*s*. each and may be obtained either from the Hon. Organising Secretary, c/o C. J. Epril, Esq., 55 Pall Mall, S.W.1 or the Architects' Benevolent Society, 66 Portland Place, W.1. Dancing will be from 8.30 p.m. to 2 a.m. to Charles Ernesco and his No. 1 Dance Orchestra.

Last year the side-shows were a great success, and it has been decided this year to repeat some of them, but without allowing them to take up too much of the time for dancing. The Ball Committee are appealing for prizes and would like to receive useful or beautiful (or both!) objects of all kinds, both solid and liquid. Ball tickets may be purchased by architects, students or anyone connected with the building industry in any way.

Address to the Council by the Minister of Housing and Local Government

The Rt. Hon. Harold Macmillan, M.P., Minister of Housing and Local Government, has accepted the invitation to attend the Council luncheon on Tuesday 9 December, and to give an informal address to the Council on the work of the Ministry immediately before the Council meeting that afternoon.

Reception 1953

It has been decided to hold a reception in 1953 on a date which has yet to be fixed and to hold a dinner in 1954. Though a dinner is a social occasion of the greatest importance, much is inevitably lost by the necessity to limit numbers if it is held in the R.I.B.A. building, whereas a reception affords an opportunity not only to entertain the many friends of the Institute but also to show them the building. The Council are deferring a final decision as to whether to hold a reception as well as a dinner in 1954 until a later date.

Library Group Open Meeting on Pugin

Members are reminded that on Tuesday 18 November the Library Group is to hold an open meeting to which all members and their friends are invited and at which Mrs. Phoebe Stanton will deliver a lecture on Augustus Welby Pugin. A small exhibition of Pugin's work will be on view on the first floor landing from 17 to 24 November.

It is hoped that this meeting will increase interest among members generally in the activities of the Group. The meetings are informal—almost conversational—and cover a great range of subjects in the literary field of architecture. The Group has grown steadily in numbers since its inception in 1947 and new members are always welcome. The Hon. Secretary is Mr. Kenneth S. Mills [*A*]. A meeting on 8 December will be devoted to the identification of Library drawings whose authorship or buildings are at present unknown. In the distant past cataloguing of Library drawings was sketchy or non-existent and there are very many requiring identification.

R.I.B.A. Architecture Bronze Medals

The award of the R.I.B.A. Architecture Bronze Medal in the area of the Northern Architectural Association for the five year period ending 31 December 1951 has been made in favour of the Ethel Williams Hall of Residence, Longbenton, Newcastle-upon-Tyne, designed by Messrs. Edwards and Manby (Professor W. B. Edwards [*F*], Mr. R. M. Manby [*A*] and Mr. J. C. Smith [*A*]).

The Bronze Medal in the area of the West Yorkshire Society of Architects for the 13-year period ending 31 December 1951 has been awarded in favour of the Cross Gates Branch Library, Farm Road, Cross Gates, Leeds, designed by Mr. C. Castelow [*A*].

London Architecture Bronze Medal Jury

Some members may have noticed the omission of the London Architecture Bronze Medal Jury from the list of committees published in the Kalendar for 1952-53. The reason for this was that at the time of publication the Council were reviewing the position of the Jury with a view to constituting it of non-metropolitan members. The following have now been appointed for the Session 1952-53: The President; the Hon. Lionel Brett [*A*] (Oxford); Mr. Harold Conolly [*F*] (Chelmsford); Mr. Peter B. Dunham [*F*] (Luton); Mr. A. G. Sheppard Fidler [*F*] (Birmingham); Mr. John Gloag [*Hon. A*]; Mr. Raymond Mortimer; Mr. Basil Spence [*F*] (Edinburgh); Sir Stephen Tallents [*Hon. A*]; and Sir Percy Thomas [*F*] (Cardiff).

Sculpture as Thanks to Australia

Since the end of the war the staff of the Building Research Section of the Commonwealth Scientific and Industrial Research Organisation have been sending food parcels regularly to their colleagues on the staff of the Building Research Station in Great Britain. The British staff have for some time felt the need to acknowledge this generosity in some tangible and lasting way, and they have solved a difficult problem by asking a British artist, Miss Daphne Hardy, to prepare a sculpture group which is to be sent to Australia as a token of appreciation.

The group, which has been called 'The end is to build well', is symbolic of the nature of the work the two research centres are engaged upon. It has been carried out by a modelling technique in a mixture of sand, white cement and lime, built up on an armature of expanded metal. It is mounted on a base of polished sycamore.

The group was formally presented on 15 September by Mr. J. W. Rice, Chairman of the Staff Association of B.R.S., to Mr. J. E. Cummins, Australian Scientific Liaison Officer. Miss Daphne Hardy's work includes 'Tobias and the Angel' (now in a Hertfordshire County Council school at St. Albans) and her stone relief 'Family' which adorns a post-war housing estate in Hackney.

Ministry of Education Publications

Arrangements have been made for architects in private practice who are concerned with the design of school buildings to be kept informed of all relevant documents issued by the Ministry of Education. Circulars and certain other documents will be issued free on publication. Notification will be given from time to time of other publications which are likely to be of interest to architects. Those wishing to take advantage of this service should send their names and addresses to the Secretary R.I.B.A.

Ministry of Education Building Bulletins are published by H.M. Stationery Office. They can be obtained direct from H.M.S.O. or through any bookseller.

The following titles are available (prices in brackets include postage):

No. 1, *New Primary Schools*. Oct. 1949. 1*s*. (1*s*. 1½*d*.). No. 2, *New Secondary Schools*. Feb. 1950. 2*s*. (2*s*. 2*d*.). No. 2A, *New Secondary Schools* (Supplement). Oct. 1951. 2*s*. 6*d*. (2*s*. 8*d*.). No. 4, *Cost Study*. March 1951. 1*s*. (1*s*. 1½*d*.). No. 5, *New College of Further Education*. Aug. 1951. 3*s*. (3*s*. 2*d*.). No. 6, *Primary School Plans*. Oct. 1951. 2*s*. 6*d*. (2*s*. 8*d*.). No. 7, *Fire and the Design of Schools*. Sept. 1952. 2*s*. 6*d*. (2*s*. 8*d*.).

Architects may also find it useful to refer to some of the Educational Pamphlets published by H.M.S.O. for the Ministry. The following are recommended:

Primary Schools: No. 14, *Story of a School*. 1*s*. (1*s*. 1½*d*.) No. 15, *Seven to Eleven—Your Children at School*. 1*s*. (1*s*. 2*d*.). *Moving and Growing: Physical Education in the Primary School. Part* 1. 6*s*. (6*s*. 6*d*.). Secondary Schools: *Our Changing Schools* (Roger Armfelt). 2*s*. (2*s*. 3*d*.). No. 9, *New Secondary Education*. 2*s*. 6*d*. (2*s*. 8*d*.). No. 10, *Local Studies*. 3*s*. 6*d*. (3*s*. 8*d*.). No. 21, *The School Library*. 2*s*. (2*s*. 2*d*.).

Decorations on the Coronation Route

Lay journalists at the press conference at which Sir Hugh Casson explained his proposals for the decorations of the Coronation route appeared to be as impressed by his facile drawings as they were by his imaginative ideas, though the architectural journalists who were present knew what to expect in both. Unfortunately no illustration in black and white can reproduce the brilliance of the colours nor do more than scant justice to the virtuosity of the designs. One member of the press indeed asked if the designs might be on view to the public, but Sir Hugh explained that, after they had been approved by the Westminster City Council, they would be in continuous use as working drawings.

Sir Hugh's basic aim has been to achieve 'unity of diversity', relating each display to the individual character, historical and architectural, of the street. London, he said, is rich in such individual differences, nearly every street or square possessing its own unmistakable personality. Thus Whitehall is 'H.M. Government', Trafalgar Square 'The Dominions and Commonwealth', Waterloo Place 'The Armed Services', and Oxford Street 'Industry and Commerce.' It was proposed to co-operate fully with the various street associations in providing decorations of a character suitable to each locality.

Most of the official City of Westminster decorations, designed by Sir Hugh, are to be placed in groups in the centre of each street or hung overhead where they will be in view of all spectators. He has realised that with decorations at the sides, the spectator at the Coronation procession sees only half of them.

A feature of the scheme is the decoration of lamp posts. Many of these, said Sir Hugh, are of remarkably fine design, although they are generally unnoticed and suffer from 'an accumulation of oddments . . . which have turned some of them into the appearance of overcrowded hat racks'. They are to be repainted in gay, variegated colours and, in some cases, have 'adornments' added to them. It is to be hoped that the public will like the repainted standards enough to ask for the colouring to be retained permanently. Our street furniture has long needed attention and cleaning up. It seems clear that if Sir Hugh's designs are fully carried out we shall have decorations that are not only worthy of the occasion but which we shall be proud to show to foreigners.

A.B.S. Christmas Cards

The announcement of this scheme for selling Christmas Cards to architects in aid of the funds of the Architects' Benevolent Society has already resulted in a good volume of orders. Those who have said to themselves: 'I must order some of those cards', and as yet have not done so, are urged not to delay sending in their orders. The committee wish to avoid swamping the printers with a last minute rush and run the risk of disappointing some would-be purchasers. They want to sell every card they can, not only in large lots but in small ones as well. There are a few of last year's cards available which the Committee are willing to sell for 4*d*. each. The price of this year's cards is 6*d*. each, including envelopes. The cost of printing a name and address is £1 10*s*. for the first hundred, and £1 for each additional hundred or part of a hundred.

R.I.B.A. Diary

TUESDAY 14 OCTOBER—FRIDAY 31 OCTOBER. Architecture in Ireland Exhibition.

TUESDAY 4 NOVEMBER. 6 P.M. General Meeting. President's Inaugural Address. Unveiling of portrait of Mr. A. Graham Henderson, A.R.S.A., Past-President.

WEDNESDAY 12 NOVEMBER. 6 P.M. General Meeting. Presentation of the Royal Gold Medal to Mr. Grey Wornum [*F*].

TUESDAY 18 NOVEMBER. 6 P.M. Library Group Meeting (open to all members of the Institute). Mrs. Phoebe Stanton to read a paper on Pugin. Small exhibition of Pugin drawings on view from 17 to 24 November.

Plateresque Architecture and Sculpture in Spain

By Rachel Caro, Dipl.Arch. (U.C.L.), A.M.T.P.I. [*A*]

Extracts from the Andrew Prentice Bequest Report, 1950

Fig. 1: Dona Isabel of Portugal

Introduction

Plateresque, as a style of Spanish architecture, is very little explored outside the Iberian peninsula, but it is a subject of great importance in the development of Spanish architecture and sculpture, though it is perhaps a period of debased detail and over-embellishment.

Geographical and Historical Aspects

The architecture of Spain has been much influenced by the geography of the country. The climate is very varied; in the north there are bitter winds and long cold spells; in the south there are but few days in the year without sunshine, and semi-tropical vegetation thrives.

The Iberians and the Basques were the original people of Spain. These were conquered by the Phoenicians and Carthaginians, then Hannibal lost Spain to the Romans. In the 4th century the Visigoths over-ran the Romans and remained in the country until the 8th century, when the Moors entered Spain, extending their conquest as far north as the mountainous spine enveloping Toledo. All these civilisations have left behind architectural relics and a most varied population. In the middle ages the country was divided into a number of petty warlike kingdoms whose names still remain today.

Spain, which has no physical boundary with Portugal, is cut by three semi-parallel ranges of high mountains. In the north-west the Pyrenees extend into the Cantabrian mountains; in the centre the three ranges of the Sierra de Gata, Sierra de Gredos and the Sierra de Guadarrama, which envelope Avila and Madrid, form a formidable barrier across the middle of the peninsula; and in the south is the beautiful Sierra Nevada, on whose slopes lies Granada. Apart from the links by sea, Spain is joined to France and North Europe only by two narrow corridors in the Pyrenees. All these physical conditions have had great effect on the various architectural styles to be found so clearly defined within her boundary. Prior to the 15th century, Spain was an outpost of Europe, but by the end of the century, under the Emperor Charles V, owing to a series of dynastic marriages, she owned much of northern Europe. The Moors occupied the south of the country until Isabella finally threw them out of Granada in 1492. And until the Inquisition the Jews centred their culture and wealth in Toledo, Cordova and other towns while teaching in the great international university at Salamanca.

The counter-reformation had spread to Spain, with its urge to enlarge and build churches. The noblemen, now disallowed by royal proclamation to rebuild their feudal strongholds in the country, came to the towns to start a new fashion in town houses. Thus, with added wealth from Columbus's American discoveries, a spate of building both temporal and secular started in earnest. This late medieval and Renaissance work is known as the Isabelline and Plateresque style, and much still remains today.

Styles of Architecture

The north of Spain, in the reign of Ferdinand and Isabella, showed a predominantly Gothic flavour in its architecture, which can be compared with the Renaissance and Moresque architecture of the same period in the south. This can be accounted for only by the influences brought in from outside the country. Spain may fairly be called a sponge where architectural and sculptural styles are concerned. She was particularly able to absorb a style and make it her own, moulding it to fit her country, and often placing another influence adjacent to it. Thus in Sancti Spiritus in Salamanca (Fig. 3), a Gothic type church is found with Renaissance mouldings and a Mudejar ceiling. Foreign craftsmen such as Juan de Colonia and his son and grandson, Egas, Diego de Copin and Biguerny settled in Burgos, for they were encouraged to come to the country, where they could find employment. They brought with them the architectural influences of Germany, Flanders and France, settled in all the northern centres and kept the Gothic mood alive in the north (Fig. 4) while the Italian Renaissance influence was at work in the south.

Burgos Cathedral illustrates this foreign influence very clearly. This Romanesque church was begun by Bishop Maurice in 1221 or 1222, when he brought back from his travels a French architect. The plan of the cathedral, with its chevet and radiating ambulatory chapels, resembles closely the Gothic cathedrals of northern France, such as Pontigny or Coutances. Later the Colonia family gave the cathedral the twin stone spires so very similar to those found on German Gothic cathedrals of the same period (Fig. 6).

During the early years of the reign of Ferdinand and Isabella a debased Gothic transitional style emerged, known as Isabelline. This was mainly prevalent in the north. Concurrently influences from Italy began to arrive. Thus Spain then had four clearly-defined styles of architecture which were largely determined by physical boundaries.

The least important might be called the 'Stage' style, possibly from India or America, incorporating Gothic and Renaissance motifs, but this is of little consequence in tracing the history of the architectural style and was little affected by tradition.

The Moorish influence had a much more lasting effect on the architecture south of Madrid (Fig. 14). The Moors' brilliant technique, curiously shaped arches and fine plaster work, together with their use of coloured tiles, derived from the Sassanids and Persia, were even copied, in an inferior manner, in the extensions of the Alhambra as late as in the reign of Charles V.

But the most important influence in southern Spain, comparable only to the Gothic of the north, is the Italian Renaissance. Spain had joint interests with France in Italy, and it was fashionable for noblemen to have their fine marble tombs imported from Italy. Gradually these came to influence the Spanish architects and sculptors, while even such Italian sculptors as Torrigiani settled in Spain. Vasco de la Zarza, Alonso Berruguete, Ordonez and many others are known to have gone to Italy as students and even left their mark there. The Renaissance style was thus conscientiously adopted by the prelates of the church and the nobility through the commissioning of tombs or building in the new

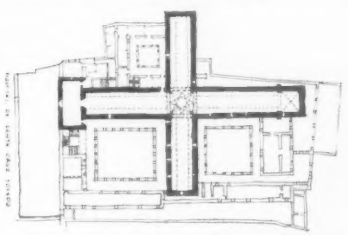


Fig. 2: Hospital de Santa Cruz, Toledo

style. It is even possible to see the work of a single architect who could produce, by order, works in Gothic or Renaissance vein. And, of course, the transition is often clearly seen in a single building.

The style that took hold in Spain was, however, far removed from the pure Renaissance of Italy. Basically classical, it was called 'Plateresque', and was a combination of Moorish and Gothic with a predominantly Renaissance feeling. This style was current in the reign of the 'cathedral sovereigns', Ferdinand and Isabella.

A Definition of Plateresque

The name 'Plateresque' originates from the derisive term given by the Baroque builders of the 17th century. It comes from 'plateria'—silver—implying smallness and lack of architectural feeling in detail; it may even refer to the wealth of magnificent custorias—miniature silver and gold crosses, processional reliquaries and other church ornaments of this period.

Plateresque can be broadly divided into three groups. The first, the predominantly Gothic transitional period, is known as Isabelline—after Queen Isabella of Castile. This is the architecture of the late 15th century in the north of Spain, where Gothic detail is added to Gothic structure. Almost contemporary is the style now known as Cisneros, after the Cardinal of that name. This has a more Renaissance flavour. Here Renaissance detail is added to Gothic structure. Finally, there is Plateresque proper, the style which is to be found predominantly in the south, which had adopted the Christian faith in the late 15th century and previously had Moorish rather than Gothic architecture as a background. This is the nearest style in Spain to the Renaissance of Italy. Here Renaissance detail is added to an apparently Renaissance structure. In some cases these divisions become very arbitrary, though they form a more useful guide and will be followed throughout these notes.

The Isabelline Period

The Isabelline period brought with it three new plan forms. Perhaps the most important is that of the royal chapels, of which the Cartuja de Miraflores, built on high ground on the outskirts of Burgos, is the prototype.

This chapel, started in 1454 by Juan de Colonia, was finished in 1478 by his son Simon. It was founded by Don Juan II in memory of his father Don Enrique III. Here the simple rectangular church with no aisles, but with a raised choir, was used for the first time. This raised tribune, which dominated a third or quarter part of the nave, was supported on a stone-vaulted ceiling in ogee arch form. The ceiling to the rest of the church was also stone, generally with complex vaulting. Sometimes the raised choir was expressed externally by a narthex brought forward and joining the twin towers on either side

Fig. 3 (top): Entrance to Sancti Spiritus, Salamanca
Fig. 4 (bottom): Triptych, Covarrubias, near Burgos

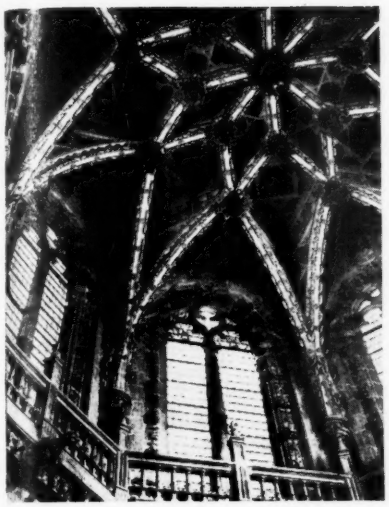


Fig. 5: Lantern over principal crossing, Burgos Cathedral

of the entrance. Other examples of this include the convent church of Santo Tõmás at Avila, built under the patronage of the royal sovereigns (Fig. 7), San Jeronimo at Madrid, and the Capilla Real of San Juan de Los Real at Granada. This latter was built in 1506 by Enrique Egas as a burial place for the Catholic kings.

The prototype hospital plan form is to be found in the Hospital de Santa Cruz at Toledo, founded by the Grand Cardinal de Espana, Don Pedro Gonzalez de Mendoza, and started in 1504. It was designed by Enrique Egas and contains all the typical Isabelline decorations. Its plan is cruciform, with four patios and central crossing (Fig. 2). Other examples are the Hospital Real at Santiago de Compostela and the Hospital Real at Granada, also designed by Enrique Egas.

The third important plan form is the domestic one. Now that the rich noblemen were moving into the towns there was a great demand for houses, and they either remodelled Gothic houses or built themselves fine palaces; these were truly Spanish in form. The accommodation surrounded an open patio which was entered from a vestibule, with two-storey cloister galleries round it. These galleries were connected by a palatial stone staircase. The upper gallery opened into the private apartments. It should be remembered that the patio was the only place where the 16th century woman was permitted to take her air and exercise, and the structure, with its thick wall, was peculiarly suitable for the hot Spanish climate. The patio was usually so arranged as not to allow the sun to enter the rooms, and the external fenestration was small and unimportant. This plan was derived from the Moorish idea of the secluded family life and followed the Moorish conception of a very plain façade, with possibly only a sculptured doorway and a very heavily ornamented interior. There are innumerable examples of this type of house in every town in Spain, and especially in Seville; some are palaces, while others, much simplified, are the meanest of habitations, but all are built round a patio. As in France with the 'church of glass', so in Spain at the end of the 15th century lavish ornamentation was used to cover up the debased Gothic detail and lack of structural character creeping into church building. This can be seen in the exterior view of the lantern over the Capilla del Condestable at Burgos Cathedral by Simon of Colonia, son of Juan de Colonia. Then, still later on, in the lantern over the main crossing of the same cathedral Juan's grandson has incorporated weak early Renaissance detail with flattened Gothic cusping (Fig. 5).

Often the ornamentation was largely kept to the interior of the buildings where the harsh sunshine could not obscure it. There are, however, exceptions to this rule; perhaps the two most notable are the heavily sculptured retablo fronts of San Pablo (Fig. 8) and San Gregario at Valladolid, as well as the highly ornamented entrance of the new Salamanca cathedral by Rodrigo and Juan Gil de Montañón. This latter building, started in 1531, shows on its fronts many typical Isabelline features, with its flamboyant Gothic canopies and bases over niches carrying poor Gothic figures and its composite arched doorways, Moresque in shape, its Gothic pinnacles and lace-like cusping (Fig. 10).

There are three amazing examples of wall treatment in domestic buildings belonging to this period. All are by the same architect, Juan Guäs. The Casa de las Conchas, or house of the scallop shell, at Salamanca, completed in 1512 for Doctor Talavera and Maldonado, consul of state and ambassador in Portugal and France at the end of the 15th century, is one of the best known examples. This has the motif of the scallop shell, the emblem of the holy sign of St. James, dowelled into the ashlar in a symmetrical pattern all over its principal façade (Fig. 9). This form of pattern treatment is unique to Spain, and is dated prior to the heavy rusticated treatment found first in Verona and later in the palaces of the Strozzi or Riccardi in Florence. Inspiration for this treatment must have originated from the geometrical influence of the Moors. As in Italy, the strong sunshine of Spain caused the regular stone projections to cast magnificent patterns across the façade of the buildings. These projections vary in shape. At the Palacio del Duques del Infantado at Guadalajara, built for Inigo Lopez de Mendoza between 1480 and 1492, Juan and his brother Bonifacio Guäs have used the diamond shape to convey this feeling of texture: while in the Seminario at Baeza, in the south of Spain, Juan Guäs has used both the diamond-shaped projection and small flower-like pattern, both fitted within the shape of a square.

It is worth comparing these three examples with another house by Juan Guäs in Salamanca, the Casa de los Abarco Maldonada, now the provincial museum. Here the front has very similar

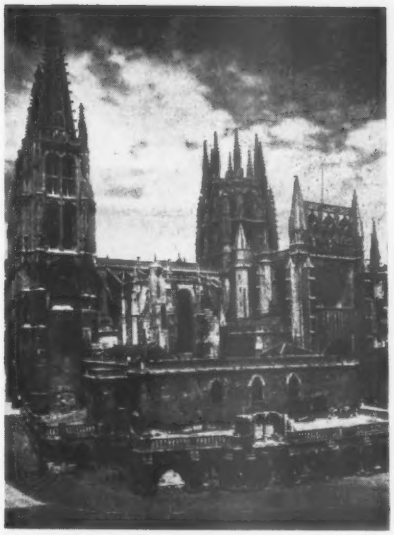


Fig. 6: Burgos Cathedral

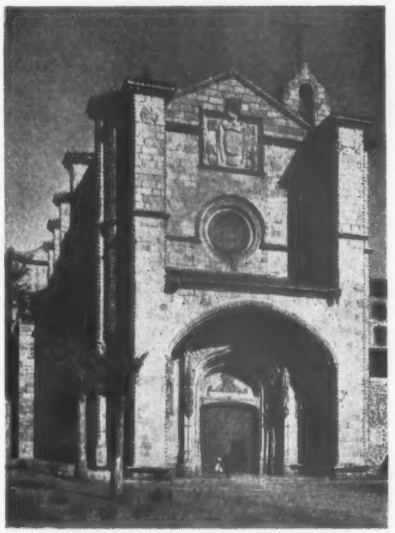


Fig. 7: Church of Santo Tõmás, Avila

windows to the Casa de las Conchas, though all surface treatment has been strictly omitted. There can be little doubt that these projections lend themselves to a more interesting appearance in the strong sunshine.

The Cisneros Style

The Cisneros period, which is Renaissance rather than Gothic in detail, can be illustrated by two doorways at Burgos Cathedral by Francisco de Cologne. The door to the sacristy in the Capilla Mayor, which dates from 1512, and the door to the Puerta de la Pellejeria, built four years later, were commissioned by Antonio Fonseca. At this time, Don Juan Rodriguez de Fonseca, brother of Antonio, was Bishop of Burgos and Palencia. The Fonseca family, whose seat was at Coca just north of Segovia, was very influential

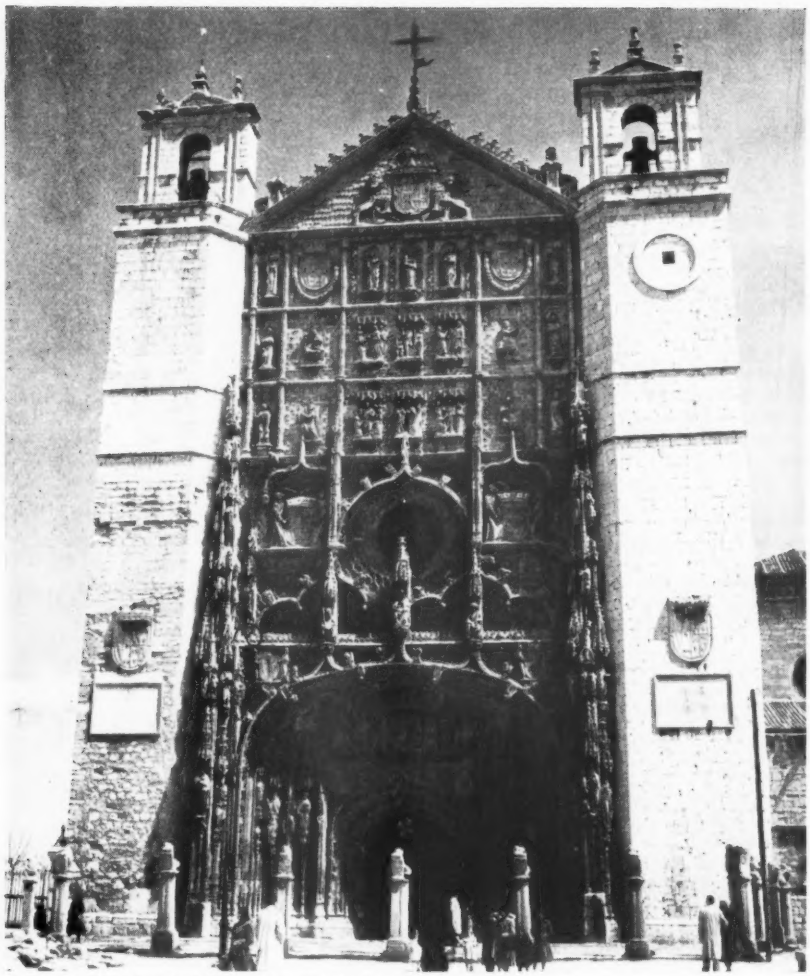


Fig. 8: Retablo front of San Pablo, Valladolid

in the north of Spain and filled the highest offices of both church and state. They were patrons of the arts and might well be compared to the Medicis of Italy. It was this family who consciously fostered the Renaissance style and commissioned tombs and retablos in the new mode. The story goes that one of the Fonseca family saw the seal of the Cardinal of Valencia, who belonged to the Borgia family. He was so delighted with its Italian Renaissance design that he encouraged the new style in Spain, and we have to thank Juan Rodriguez de Fonseca for the superb collection of Flemish tapestries at Palencia.

Further examples of the Cisneros period must all be taken in the north of Spain, for this arbitrary period of Gothic-Renaissance detail belongs only where the Gothic had taken a firm hold.

An important example of the Cisneros period is the famous front to Salamanca University, erected under royal patronage (Fig. 11). Ferdinand and Isabella deemed that this university, already internationally famous, had not a sufficiently important appearance. Between 1525 and 1530 the Catholic sovereigns had the front completely remodelled, probably by Enrique Egas, who was adviser on Salamanca Cathedral. The Fonseca family had been encouraging the new style in Salamanca as they had in so many other centres, and this magnificent front shows their influence; while Gothic in feeling and composition, its detail and overall appearance are Renaissance. The scale, minute in the lower part, gets grosser and bolder as it recedes from the eye. Italian foliage is twined round the Catholic sovereigns' escutcheons, which play a very important part on the composition. The central uppermost group shows the Pope dispensing privileges to commemorate the fact that the university was under pontifical as well as royal protection, while the bottom roundel portrays Ferdinand and Isabella (Fig. 11). This link illustrates the two motive powers behind all Spanish art, from the earliest times; the influence of the crown, to which the people gave implicit obedience, and the power of the church, in which they had unreasoning belief. These parallel influences appear continuously, whether it be in the form the Christ should take or in the use of the royal escutcheon. The crowning feature to this retablo type front is the Gothic foliage, which stands silhouetted against the sky as in so many examples of the Cisneros style. This is a special feature of the Salamantine school.

The Influence of Italy on the New Sculptured Figure

The transitional period which can be so clearly identified in the architecture of the late 15th and early 16th century can also be felt in the other plastic arts. It was the habit of the great maestro to be able to produce both sculpture, painting and architecture with equal aptitude. So from the studios of the same great names as the architects of important buildings came the authors of architectural sculpture.

The dramatic tension of the Gothic figures is seen both in sculpture and painting with their elongated and contorted forms, giving way to a more mature approach which produced figures more digested in feeling, with less suffering and anguish. It is worth while comparing the Christ in the centre of the retablo at the Cartuja de Miraflores with the Christ in the retablo in the Capilla Real at Granada; the first by Gil de Siloe and Diego de la Cruz and the latter by Filipe de Borgona. Still later, more realism is introduced as the Christ is portrayed in the polychrome wood paso figure in the Valladolid museum by Gregorio Fernandez. Here a new anguish returns in the hands of the early Baroque sculptor. It is worth studying still further the development of the sculptured figure during this transitional period. Again in the Cartuja de Miraflores at Burgos is that octagon tomb of Juan II and Dona Isabel de Portugal (Fig. 1), the parents of Isabella of Castille. It was commissioned in 1489 by Queen Isabella and finished in 1493. The figures are carried out in alabaster, a stone particularly suitable for so much decoration and deep undercutting, while in Spain it has a very durable quality.

This magnificent tomb is carved in the Gothic vein, and is also by Gil de Siloe and Diego de la Cruz. The same attenuated figures are seen as in the Christ, full of anguish, and piously sincere in appearance. The hair is not patterned but falls realistically, while the clothes are completely lacking in simplicity; true to life, they show every deep-cut design which uses basically Gothic cusping as its chief motif; while the pillows, realistically dented by the weight of the heads, have acanthus leaf patterning with Gothic finials. These two principal figures with their Gothic canopies are separated from one another; they are independent compositions and together they form no real part of the star in which they are enclosed.

The posthumous work of Alonso Berruguete—who had studied for many years in Italy—in the Capilla del Condestable at Burgos Cathedral, makes an interesting comparison. This tomb dates from about 1561, when Berruguete died and left a model for it in wax. The

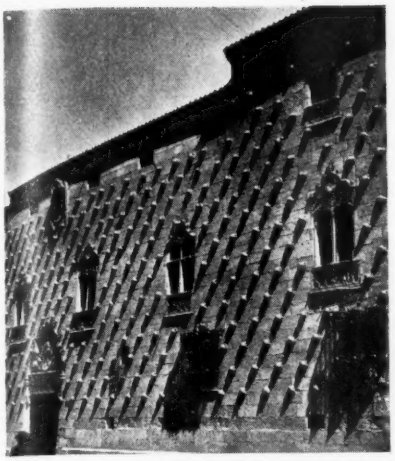


Fig. 9: Casa de las Conchas, Salamanca

figures are of the Condestable of Castile and his wife Dona Mencia de Mendoza, Condesa de Haro (Fig. 13). They are carried out in Carrara marble, and the ornamentation is in the manner of Siloe. Here is seen the Renaissance simplification of the hair style, losing all naturalism in order to form a pattern. The figures are simplified and much less elongated, while the faces are composed and not so ethereal. The dresses plainly show Renaissance motifs, and the whole unites together to form a much more restful composition.

These two tombs can be taken to demonstrate the vast difference in the treatment of figures in the Isabelline and Plateresque styles. But the two kneeling figures in the entrance foyer of the Capilla Real at Granada serve as a centre post in the transition; they are by Filipe de Borgona, who had come from Langres to Burgos in 1498. There is no record of his going to Italy, but his association with such people as Jacopo Florentino L'Indaco, an Italian, and others, gave him a knowledge of Italian work. These figures of Ferdinand and Isabella are carried out in wood and painted. Realistic colouring is used on the hair, face and hands, while the clothes are painted all over with a marvellous patterning like a fantastic brocade. Painting is gold and red; the red shows through the gold as a transparency. The whole gives a magnificently rich effect.

There can be no doubt that the heavy fold of the queen's sleeves or movement of the cape over one of her shoulders is almost Baroque in conception (Fig. 12). The faces are somewhat composed and realistic and yet they do contain a certain attitude of the supernatural, a combination of Gothic and Renaissance.

The True Style of Plateresque

Plateresque proper can be expressed as the form that Renaissance art and architecture took in Spain; and this arbitrary name serves to explain the nearest equivalent to the classical revival in Italy.

Certainly in Spain neither Gothic nor Renaissance is pure. Art is expressed in a

Fig. 10: Main entrance of new cathedral, Salamanca

romantic form, and this romanticism is the underlying influence throughout all periods. Thus the pure classical Renaissance of Italy is jumped and a developed romantic Gothic in the style of the Isabelline period extends into a romantic Renaissance which is called here Plateresque. This florid style slips easily into a romantic Baroque, and thus Baroque becomes readily appreciated as the natural culmination of Isabelline, Cisneros and Plateresque. All periods show more movement and abundance of detail than the styles of the countries from which they originated, whether they be Gothic from France and Germany or Renaissance from Italy.

There are examples of Plateresque in every town in Spain—but in the south there is no Isabelline. For by the time that the Catholic sovereigns had spread their influence to the south, the 'new' style was properly adopted both by royal and other patrons of the arts. The new generation was becoming quite used to designing in the Plateresque idiom. There was now a steady flow of trade with Naples, and the constant interchange of artists with Italy resulted in a more reasoned and learned style of design being imported into the peninsula.

As Ferdinand and Isabella conquered the south, they brought Christianity with them. Granada's architectural tradition until it fell was Muslim, with characteristic thick, undecorated walls with insignificant fenestration, horse-shoe arches, and internally complicated plaster decoration showing great brilliance of technique. Here, geometric form is the basis of all the design details. No sculpture of animals or human forms was permitted, though flower shapes and decorative Arabic characters written as poems make wonderful patterns. Colour is incorporated, not only on the plaster work, but in the magnificent tiling so frequently found on dados in rooms surrounding patios.

The Moorish workmen of the south were so familiar with this style that frequently, when the Italian influence was imposed, the Moresque decoration penetrated into buildings, and classical columns are found with Moorish plaster decoration

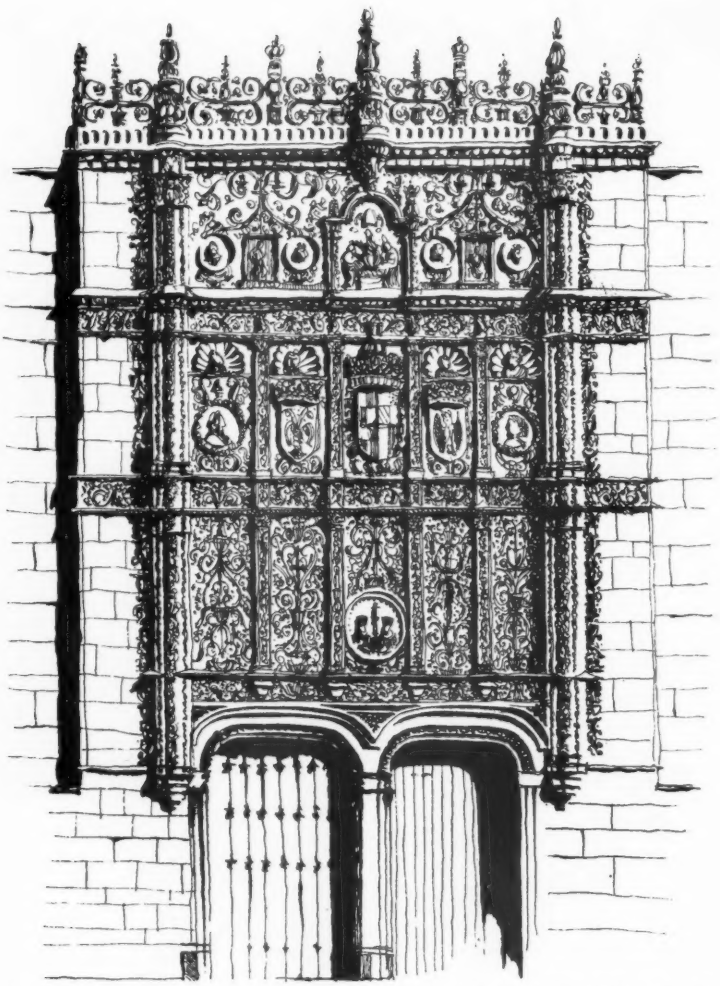


Fig. 11: Main front of University, Salamanca. From a drawing by Norah R. Glover [*A*]

Fig. 12: Isabella, in the Capilla Real, Granada

Fig. 13: Dona Mencia de Mendoza, Burgos Cathedral

above. This Moorish-Plateresque—an offshoot of the true Plateresque—appears principally in Seville and Granada.

The Plateresque Contribution

There was one important element unique to this period in Spain and stemming from Italy of the early Renaissance. This was the very popular waisted or balustered column. This feature was used widely, but almost invariably internally, on retablos, choir stalls, tombs, etc.; where it had no real structural value. It is said to have added a refinement to the architecture. It varied considerably in the hands of the many artists. It has a narrower shaft than cap or base. Below the cap, usually composite in form, the slender shaft enlarges to a point about half-way down its length; here it is waisted with foliage in bas-relief. Sometimes the shaft continues below, forming into an elaborate and extended base, often almost as long as the shaft itself. An example of this can be seen in the retablo of the Adoration of the Kings at the church of Santiago at Valladolid by Alonso Berruguete (1537). Here both the heroic and ædicule scales are incorporated. Again, in the magnificent retablo mayor at the Capilla Real at Granada by Filipe de Borgona and Jacopo Florentino L'Indaco this detail is shown (Fig. 16).

If this column is not really a structural element, perhaps the corner window may be classed as a structural contribution to the Plateresque period. In Ubeda this is a popular feature. The most interesting example is the Torre del Conde de Guadiana (1575), where this window is repeated on each storey up one tower (Fig. 15).

The magnificent rejas, to be seen in a lesser or greater degree in nearly every town in Spain, are a further Plateresque contribution.

The dictionary meaning of the word 'reja' is something made in iron, from a ploughshare to a fire-grate. When this name is used architecturally in Spain it indicates an iron screen or grille, generally within a church or cathedral, where it has two functions; either it bisects the church, dividing the choir from the nave, or it encloses a small side chapel.

Beaten iron-work was the inheritance of the Plateresque craftsmen, who must have been familiar with the many fine beaten Romanesque pulpits which can still be found in all parts of Spain. The church rejas embody both beaten and wrought iron-work. Leaf and human motifs are used, as well as the combination of open verticals and scrolls with solid embossed friezes between. Allegorical scenes often form an important part of the composition (Fig. 17).

All over the country, grilles are found over the lower windows of the houses to

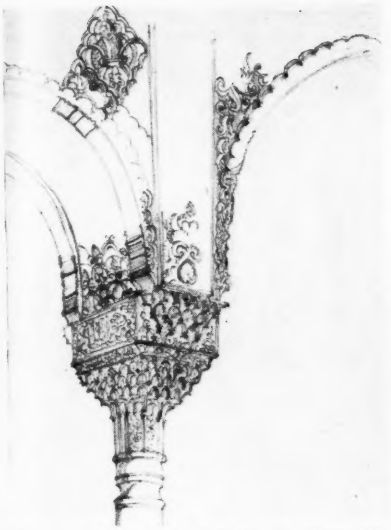


Fig. 14: Column in Palacio de Generalife, Granada

Fig. 15: Torre del Conde de Guadiana, Ubeda

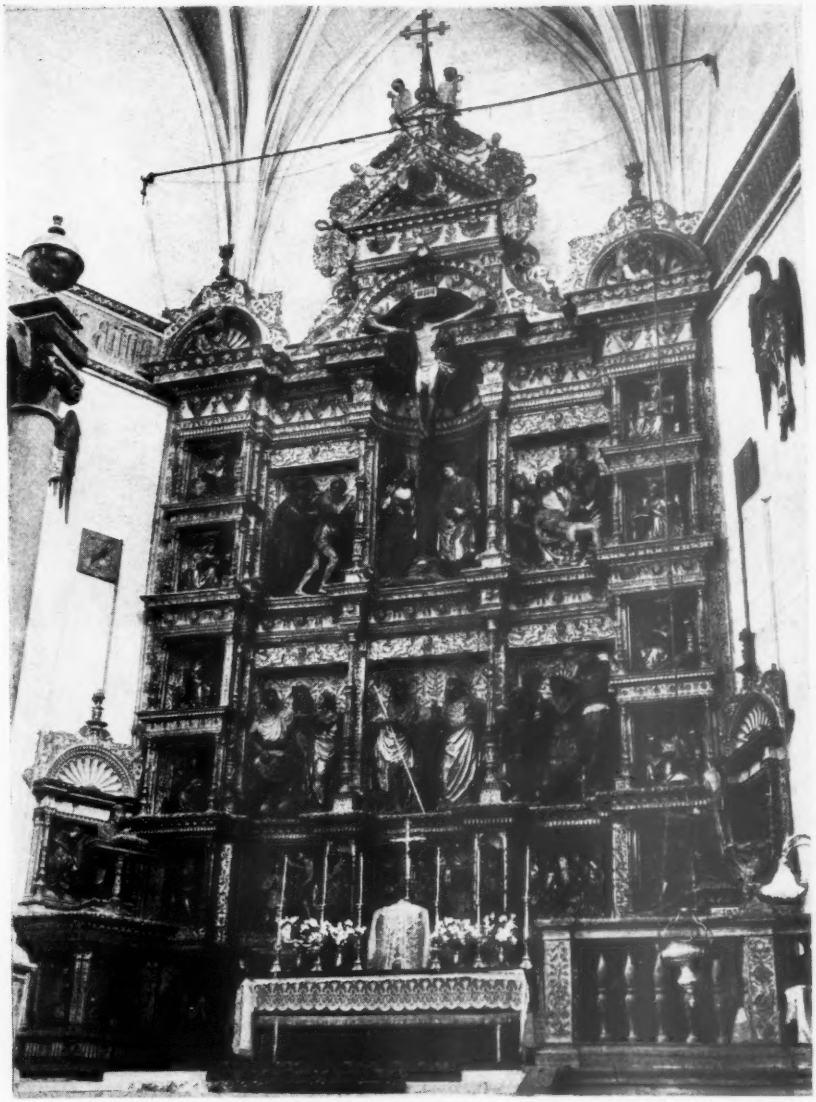


Fig. 16: Retablo mayor, Capilla Real, Granada

act as a protection against unwanted guests. These are also known as rejas and were often simple in form, using a suitable square pattern, though in the Casa de las Conchas (Fig. 9) two of the most beautiful in Spain can be seen, very fine in detail. This tradition of fine iron-work is still carried on today, and finely designed gates, railings and domestic utensils are everywhere to be seen.

Plateresque Decoration

Decoration in the churches is a bequest from the earliest times; painting, tapestries, sculptured tombs, entrance doors, pulpits, retablos and trascoros were the inheritance of the Renaissance artist.

Unlike the Isabelline period, Plateresque brought with it no new and important plan forms or structural canons. Really it was a period important for its abundance of ornamentation both in bas-relief, high relief and in the round in the form of sculptured figures in wood or stone. This ornamentation, derived from Italy, was applied without discrimination by a people now fantastically wealthy. Whole surfaces were embellished by the 16th century artist, who seemed afraid of finding areas undecorated.

There are many examples of buildings in every town in southern Spain which were heavily ornamented in the Plateresque period, just as in the north one is inclined to find the particularly plain and austere elevation already noted. These decorated fronts vary slightly in character, largely with the towns, which each formed a separate school, though they have much in common. Perhaps one of the most representative of these is the famous example of the Casas Consistoriales or Town Hall at Seville (Fig. 18), and this follows the oriental tradition of luxurious decoration. This building was designed by Diego de Riaño, assisted by a number of sculptors. It was started in 1527, and does not follow the classic module of proportion though it is axially planned.

The embellishment appears in every conceivable place. Many are the forms of design patterns illustrated, combining pure decoration with representation—strange flying birds, centaurs, animals, skulls, all bound together with entwining vine-like stems, while winged angel heads are a usual motif and putti appear not infrequently, sometimes free-standing and sometimes united with almost Gothic-type cusping. All these can be compared with Italian Renaissance details, though the Italian pattern books are much more

Fig. 17: Reja bisecting the chapel, Capilla Real, Granada

reserved and controlled in the rhythm and freedom of their arabesques.

Reference has already been made to the scallop shell, no doubt particularly popular owing to its religious significance, while heads appear in medallion roundels, particularly in the spandrels of arches. These, as in Italy, sometimes portray the king or dignitaries of the town, or are portraits of the owner of the house and his family, or perhaps are portraits of the architect himself.

But the most favoured motif of decoration of the Plateresque period, often in high relief, is the escutcheon. It is common knowledge that throughout the middle ages in Europe one of the prime factors of a judicial marriage was to increase the quarterings on a shield. There are few buildings in Spain where either a royal or a noble coat of arms does not appear. The royal coats of arms have a particular value today over and above their decorative one. They give an almost exact date to the building on which they are found. It seems that artists took a great delight in shaping these escutcheons and designing warriors with angles of leaves to support them, and incorporating the whole into the composition. Every building in which the royal sovereign had any concern carried the royal arms. The royal emblems accompanied the shield, upon which were the royal quarterings. These emblems, though freely interpreted, have very definite meanings.

A fine example of the royal arms is carried on the stone trascoro in Palencia Cathedral. Either side of the shield is a bound sheaf of arrows and an oxen's yoke. These are the symbols of the unification of Isabella of Castille and Ferdinand

Fig. 18: Detail of pilasters, Seville

of Aragon, and show that 'unity is force'. These two symbols are often accompanied by the words 'Tanto Manta', indicating the unification and equality of the Catholic sovereign. Very rarely is a shield applied direct to a monument without an eagle's head above. This is the sacred bird of the Evangelists and portrays Catholic royalty. This single-headed eagle, so dear to Isabella, was later changed by the Emperor Charles I to a two-headed eagle, by virtue of his dual kingship of Austria and Spain. Thus the two-headed German eagle, complete with crown, appears on buildings constructed after 1517. The pomegranate or 'granada' gives another useful pointer when dating buildings. This was added to the royal escutcheons when Granada fell to Ferdinand and Isabella in 1492.

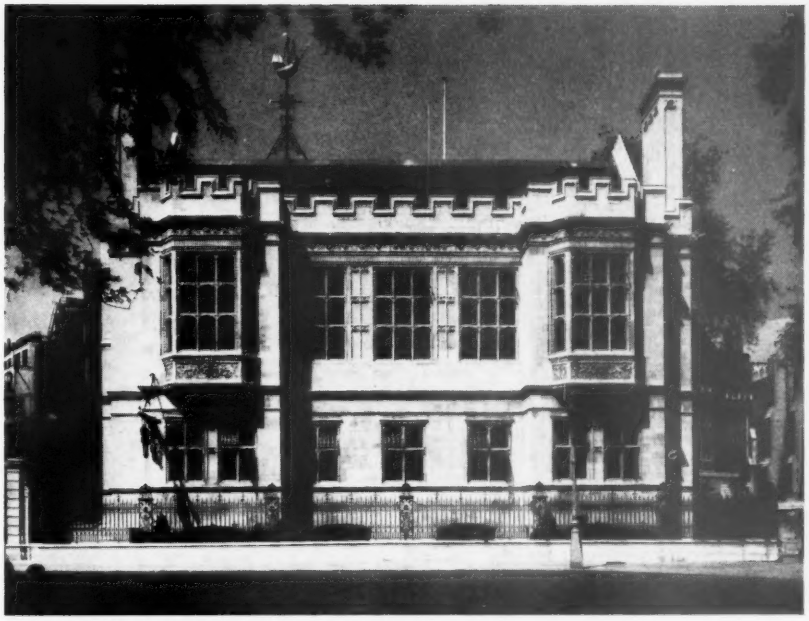
The magnificent stone screen in the choir of the Royal Chapel of San Juan de los Reyes at Toledo is probably by Juan Guäs, the architect of those great retablo fronts at Valladolid (Fig. 8). Here the royal emblems are formed into a fantastic pattern by their continuous repetition, incorporating Isabelline architectural details. Sometimes around the shield is the collar of the Golden Fleece or the pillars of Hercules, intertwined with ribbons bearing the words 'plus ultra' to show the domination of the new world. There are examples of these shields on all the major buildings of the periods, and often they are of high artistic merit.

Variations within the styles of Plateresque

Plateresque architecture varied in detail in nearly every town in Spain. It is difficult to find out all the reasons for this, as they are manifold. The quality of the stone has had its effect on the amount and style of the embellishment that could easily be carved. Both the wealth of a town and the date of its prosperity must also have been influential in the extent of its decoration; but perhaps the most important factor must have been the taste and ability of the local architects.

Reconstruction of the Incorporated Accountants' Hall, Victoria Embankment, E.C.1.

Architects: Sir Percy Thomas and Son [*F/AA*]



Elevation to the Victoria Embankment, as restored

THE HALL WAS built in 1895 for William Waldorf Astor by J. L. Pearson, R.A. An office for a millionaire and on a site facing a river recalls nostalgically the idealistic school programmes of thirty or so years ago. But this was reality, and Pearson, with his profound knowledge of craftsmanship and the ability to draw on a deep purse, made the most of it. The structure was immensely solid and most carefully built—a fact which contributed considerably to its survival. Pearson embellished it with exquisitely carved joinery and marblework, much of which was infused with an Italianate feeling suggesting that many of the craftsmen employed on it were Italians. The Great Hall was covered with a superb hammer-beam roof.

At about 4 a.m. on 24 July 1944 a flying bomb detonated on the side of the Cable and Wireless building next door at about second floor level and facing the west side of Astor House. The explosion almost completely destroyed the exposed side of the building, the stonework that remained being so badly scarred with fragmentation that it had to be replaced. The greatest damage—revealed in a subsequent inspection—was by the transmission of shock through the structure. Several walls were moved from their vertical alignment, and these had subsequently to be pulled down and rebuilt. Most of the leaded windows were blown out of their stone frames and much of the elaborate internal woodwork and decoration was seriously damaged.

A preliminary survey was made in March 1949, and photographs were taken. These were useful both in upholding claims to the War Damage Commission and in the subsequent detailing of reconstruction and alteration. The architectural problem was not one of simple reconstruction. Apart from shortages of materials, it was difficult to find craftsmen skilled enough to carry out the reinstatement of the old work and the execution of new. Licensing restrictions made it necessary to strike a balance between the elaboration of the old and the enforced simplicity of today.

In the rebuilding the west side has been replanned to provide additional accommodation. The centre has been brought forward to enlarge the entrance hall and provide a new room on the first floor in place of the old strong room. A large oriel window designed in harmony with those on the other façades has been substituted for the elaborate old doorway and pediment and has a simple doorway beneath it, the old entrance staircase being reconstructed in a simpler form. The two bronze lamp standards on the redesigned external staircase have been repaired and reinstated on the balustrades. These are embellished with figures of boys depicting electrical illumination and telephony.

The removal of the strong room was no simple task. The room was lined with steel plates each nearly a ton in weight; altogether they weighed 55 tons, and the door, with its complicated locking device, another 5½ tons; there was an inner safe of 4½ tons. Some 3,500 screwbolts were taken out, and many of the plates removed to reduce the weight. The safe was hoisted out and lowered to a steel scaffolding runway in several operations, being eventually brought down to the forecourt.

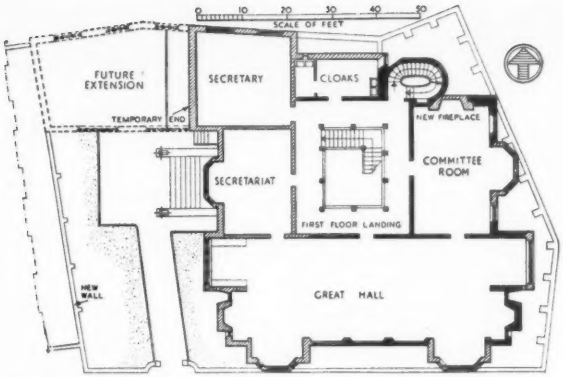
The staircase hall required extensive repair work. The stairs themselves were taken out and the main supporting member to the second of the three stair flights has had new wood grafted into its length.

The figures representing the chief characters from Alexandre Dumas' book *The Three Musketeers*, which Lord Astor considered to be the finest book ever written, have been replaced on the newel posts. Over the stairs the repaired leaded lights have been replaced in their oak framing, and these give a pleasantly diffused light to the hallway. The chimneypiece in Pavonazetto marble was reinstated and the fine geometrically patterned floor of marble, jasper, porphyry and onyx repaired and ground to a new finish.

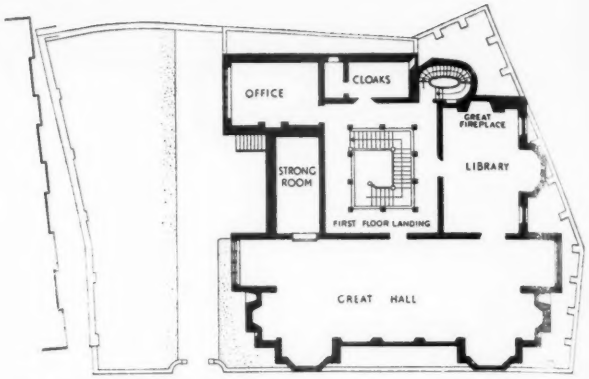
The arcading surrounding the gallery on the first floor has ten columns of solid ebony, and on several of these, as a memento, remain the scars caused by the bombing. Under the stained glass ceiling the crisply-carved frieze in relievo by Nicholls remains, with its 82 characters from Shakespeare's plays unharmed.

The main staircase

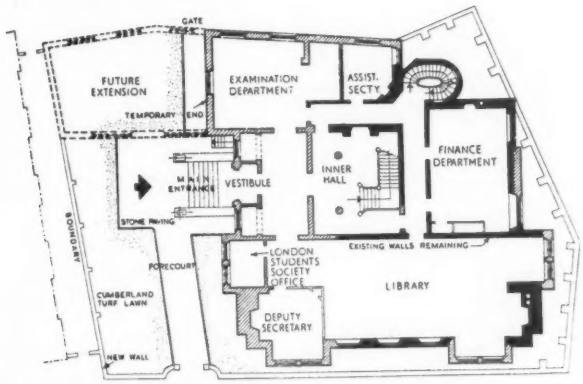
The great hall was first covered with a temporary roof, which enabled the old roof to be stripped and repaired and which protected the interior of the hall from the weather. Subsequently it was found that the southern wall facing the river was considerably out of vertical alignment and that the hammer-beam trusses had splayed outwards with the movement of the wall.



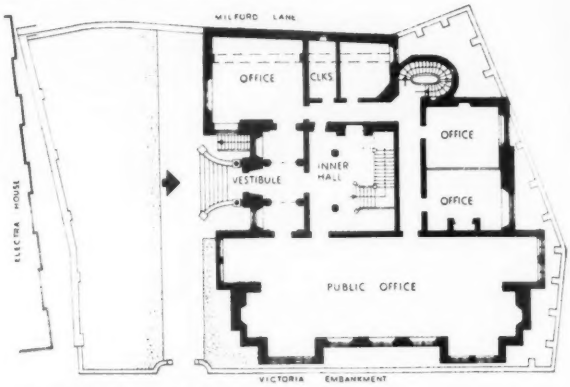
The first floor as rebuilt



The first floor before rebuilding



The ground floor as rebuilt. New work shown hatched



The ground floor before rebuilding

The new and wider entrance hall

It was necessary to shore up the hammer-beam trusses, rebuild the walls vertically true and then set the beams down again to bear on the walls in their correct positions. This was no easy task, as the roof had a total weight of 35 tons, which had to be carried down to a bearing at basement level. In all 55,000 ft. (over 10 miles) of scaffolding were used to carry out this operation and other work on the building, which is remarkable on a site of this size. The effect of this lattice-work of scaffolding was one of great intricacy and confusion, and the ingenuity with which it was used cannot be overpraised. The roof itself was re-tiled, the mellow salvaged tiles being used on the southern slope, visible from the Embankment, and new tiles on the northern slope.

The exquisitely carved joinery work throughout the building, and in the great hall in particular, suffered damage mostly by fragmentation. Much of the panelling was torn from the walls and splintered by the blast. Fortunately, the design of the panelling in the great hall was comparatively standard, and a certain amount of 'cannibalisation' was possible which enabled the joiners to repair and replace a good percentage of it without the replacement members being noticeable. The new panelling was very skilfully made to match the existing in design and finish, and on viewing the great hall one can hardly tell the difference between the old and the new.

The newly-carved joinery work is not directly imitative of the original designs, but could be described as contemporary illustrations of the carvers' creative skill based upon the pattern and general feeling of the previous work. Several of the wooden carved figures were badly damaged, and in some cases major operations have been carried out on these lifelike figures. Some have new heads, others new arms or legs. An absent-minded workman replaced the carved head plaque of Anne Boleyn in the frame bearing the name 'Bismarck'. Fortunately, this was soon noticed. Perhaps the very theological nose on the carved head of Martin Luther appears a little longer than before the bombing, or Fair Rosamund bears a less whimsical expression, but on the whole the sympathy of the replacement pieces with the old proves the success of this work.

The ceiling of the Committee Room was destroyed, and a simplified design based on the original interlacing Tudor strap-work pattern has now been fixed. In this room stood the great marble fireplace bearing the names of the succeeding heads of the Astor family. Here again, as in the case of the bronze figures on the entrance steps, Frith was the sculptor. This fireplace was presented by the Society to the late Lord Astor, and in its place is a simplified Hopton Wood stone fireplace and hearth. The panelling in this room has been carried over the new fireplace, thus filling the space formerly occupied by a somewhat disproportionate overmantel.

The general contractors were Trollope and Colls Ltd.

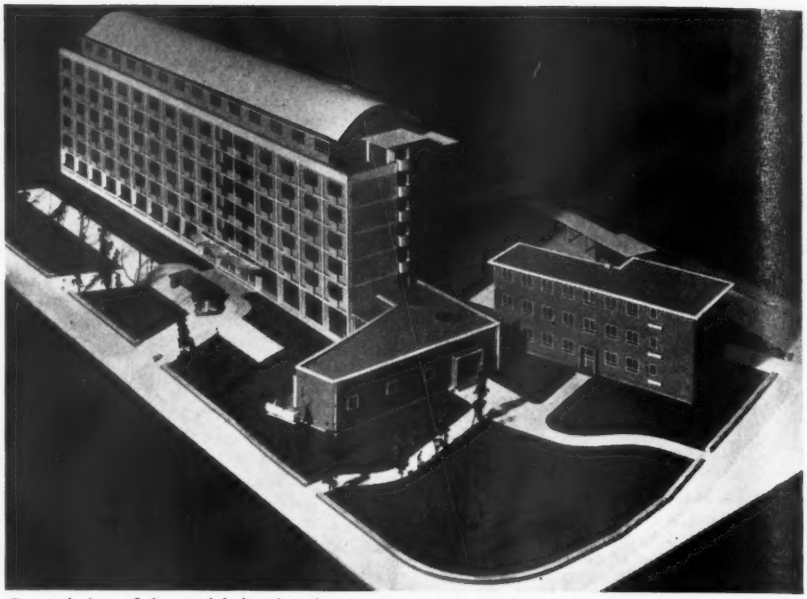
Top left: interior of the Great Hall on first floor, showing temporary repairs after the blitz. Top right: the Great Hall as restored, showing the hammer-beam roof repaired. The floor is the original one made good and most of the panelling is original

Bottom left: the west elevation as restored, showing new doorway and oriel window. Bottom right: the west elevation showing the temporary brick filling before reconstruction and the bomb-damaged doorway and pediment

Single Person Flats at Loughborough Road, Brixton:

For the Guinness Trust

Architects: Edward Armstrong and Frederick MacManus [*F*/*F*]



General view of the model showing the restaurant and staff flat blocks

THE GUINNESS TRUST, since its foundation in 1889, has consistently studied the requirements of poorer persons in London in order to provide them with the best accommodation possible at rentals within their capacity. Prior to the war, the Trust was concerned primarily with the provision of family dwellings, and indeed still is, but since the war, as housing development has been almost entirely confined to local authorities, land suitable for development has been difficult to obtain and the Trust has been tending to give its attention to smaller sites for special purposes.

The scheme here described and now under construction provides compact but comfortable dwellings, primarily for working women, more particularly for those who are getting on in years and whose daily occupation allows them little time or inclination for housework. For example, office cleaners, theatrical dressers, waitresses, etc., night-workers on the railways and in the markets. It is possible that certain sections of the building may be allocated to elderly men whose circumstances are similar. The whole scheme would be under the control of an experienced resident superintendent. The majority of the flats are of the one-room type, but to avoid confining the accommodation entirely to people of the lower income group, some larger (two-room) flats are provided.

Site. The site, which has an area of 1.96 acres gross, lies at the corner of Loughborough Road and Wiltshire Road, Brixton, with a frontage of 350 ft.

General description. The general form of the development and the number of persons to be accommodated have been controlled by site coverage, density and zoning restrictions. The buildings consist of the main block, approximately 220 ft. long, seven floors in height and placed parallel to the main frontage and containing the lettable accommodation. Attached to this by a one-storey wing containing a restaurant is a three-storey block for the supervisory staff, etc. The concentration of the lettable accommodation in one building facilitates the economic provision of central heating, constant hot water and the other amenities.

As the main block is placed parallel to Loughborough Road, which runs approximately north and south, and as access to the flats is by a wide central corridor on all floors, the flats face east and west respectively so that all get either morning or afternoon sun. This block contains a total of 161 flats of two main types, namely, 139 one-room flats and 22 two-room flats. The first to fifth floors are identical with 24 one-room flats and 2 two-room flats each. The top floor, which is set back from the sixth floor parapet line, contains 12 two-room flats and 2 one-room flats. Each of these dwellings has its own section of roof deck approached by doors from the living-rooms.

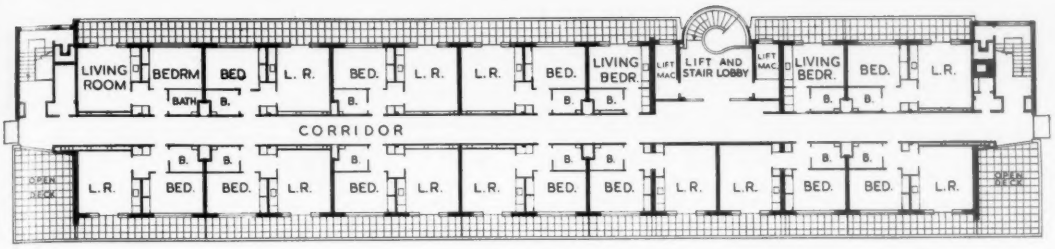
Seventeen one-room flats are provided on the ground floor. The main entrance hall with stair and lift lobby is approached from Loughborough Road. Opening off the entrance hall is on one side an office for the superintendent and on the other a lounge for the use of the tenants. A small hairdressing salon for the convenience of the women adjoins the stair lobby, and to the right a corridor leads to the staff block and service yard. There is also a small office for the despatch and receipt of articles of laundry.

The basement houses a large locker room for tenants' personal belongings, cases, etc., a small laundry equipped with electric washing machines where the tenants can do their own laundry if they wish; also an ironing room. The remainder of the basement, which is at a lower level, is given over to fuel store and the boiler room for the central heating and hot water plant. Access to all floors is provided by a main staircase, semi-circular on plan, and two passenger lifts. Escape stairs are placed at either end of the main corridor. Small lobbies for the disposal of refuse by means of a refuse chute and small incinerator are provided on the half-landings of the escape staircases. The barrel-shaped roof contains the mechanical ventilation plant, tanks, etc.

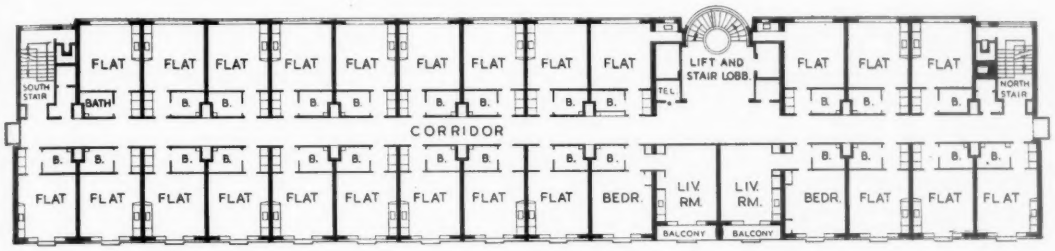
Typical flat units. The arrangement of the typical one-room (area about 250 sq. ft.) and two-room flats can be seen from the plans. It will be noted that in order to make the best use of the external walls, the bathrooms are placed against the central corridor, i.e. on the inner wall of the unit. This frees the external wall for the dwelling space. The bathrooms and entrance lobbies are mechanically ventilated by means of vertical ducts connecting to the horizontal extract ducts in the roof-space above referred to. Alternate concrete columns are built 'U' shaped on plan and within themselves form the main plumbing ducts accessible from the corridors.

As the single-room flats are for one person only and the two-room flats at the most for two friends living together, and as the scheme contains convenient self-service restaurant, it was considered that the provision of the normal self-contained kitchen in each flat was unnecessary. Instead, each flat is equipped with what might be termed a cabinet kitchen in the form of a special fitment, containing a larder (ventilated through the external wall), sink, storage cupboards, shelving and drawers, and a pull-out worktop and a minimum cooker. The workspace within the fitting can be enclosed when not in use by a roller shutter so operated as automatically to turn off the cooker when the shutter is closed.

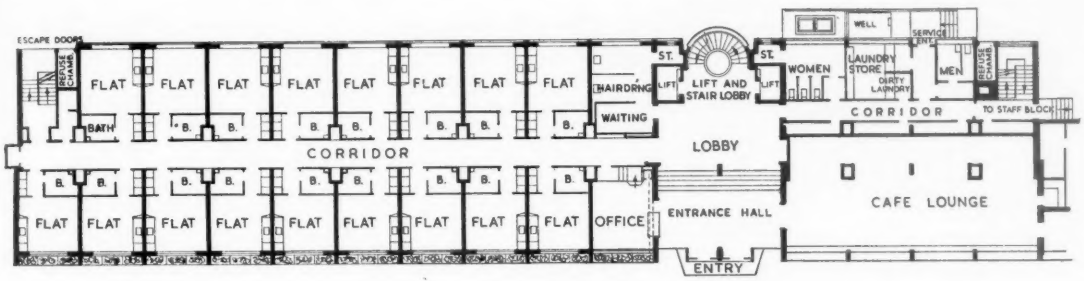
The illustration of this fitting is of the mock-up prototype in which the hot water to the sink is provided by a water heater in the cabinet. As built, the sink is being supplied direct from the central hot water system which also serves the bathrooms. All flats are centrally heated. Wardrobe, brooms and meter cupboard are planned in the entrance lobby to each unit, leaving the habitable space unencumbered for the tenants' furniture. The two-room flats which occur over the main entrance on the



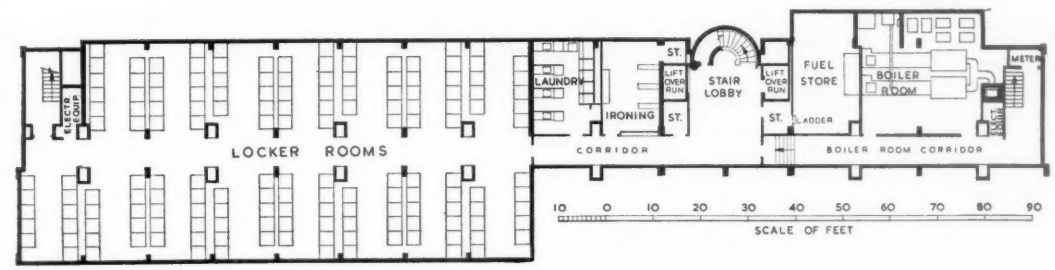
Top floor plan. This storey is mostly of two-room flats



Typical upper floor plan. For details of flats see next page



Ground floor plan. The restaurant (see next page) leads off the cafe lounge



Basement plan. This contains lock-up cupboards for tenants' use, a personal laundry and the boiler room

first to fifth floors are provided with private balconies.

Lounge and Restaurant. A large lounge, which will be comfortably furnished, is provided on the ground floor where tenants can meet their friends and acquaintances, read, play games, etc. There is a small bar connected to the restaurant kitchen for coffee and light refreshments.

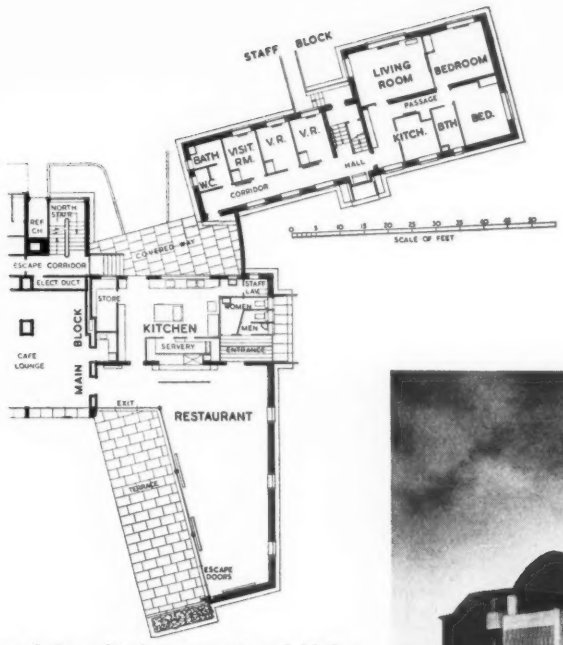
Adjoining, and approachable from the lounge, is a restaurant where hot meals can be obtained at small cost. The restaurant is primarily for the use of tenants whenever they may wish to avoid the preparation of their own meals. It is intended also to open the restaurant to the general public, who will have a separate entrance from Wiltshire Road. The restaurant is planned with large windows facing south, with a pleasant view over the planted forecourt facing Loughborough Road.

Staff and Visitors. Accommodation for resident staff and visitors is planned in a three-storey annexe adjoining the restaurant. This contains three three-room flats for the resident superintendent and two porters and their families. There are also nine single bedrooms for the use of visiting relatives and friends of the tenants who may wish for accommodation for short periods. A service yard is provided, approached from Wiltshire Road. Here are located the estate store and maintenance workshop, tenants' cycle store, etc.

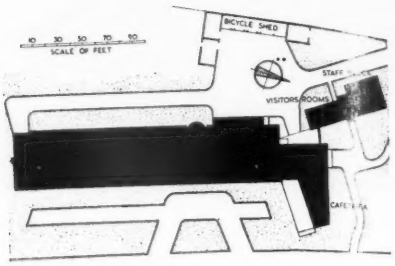
Construction. The main block is constructed with reinforced concrete frame and floors and cavity panel walls, with deep-brown facing bricks. The external faces of the concrete frame are left exposed so that the façade is divided into a pattern of equal panels expressing the sub-division of the plan.

The panels at ground floor level on the main frontage are recessed to provide space for flower boxes, and will be faced with dark blue tiles in contrast to the brick panel in-filling on the floors above. The return ends of the building as far as the projecting balconies which terminate the central corridor are faced with light-coloured concrete slabs in which the aggregate is exposed. The gable end walls of the main roof are faced with the normal brown facing brick while the set-back portion at sixth floor level is in light buff brick. The barrel-shaped roof is covered with ply bitumen roofing faced with grey-green spar. The main semi-spiral staircase is in reinforced concrete cast in situ, as is the cantilever hood over the main entrance.

The annexe buildings are constructed of load-bearing walls and brickwork and reinforced concrete floor and roof slabs.



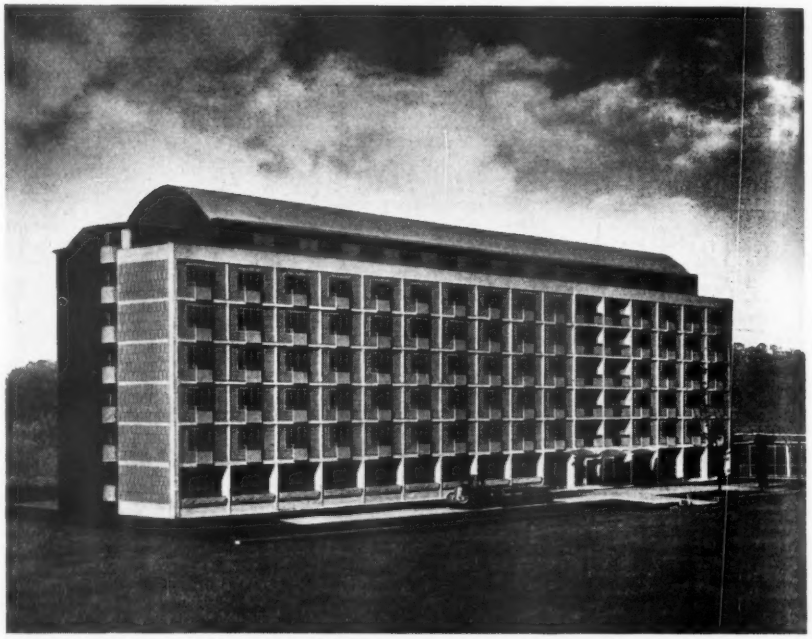
Plan of the cafeteria restaurant and kitchen wing and the ground floor of the staff block. The latter is of three more or less identical storeys, each containing a flat for married staff and single bedrooms for the occasional visitors of tenants



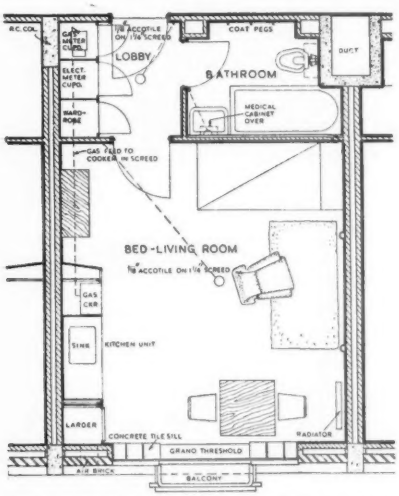
Key plan of the site

Finishes. Internal finishes generally in the flats will be to normal housing standards with plastered walls and ceilings and plastic tile floors. Corridor floors will be covered with heavy-quality lino, lounge with cork, and the restaurant with wood block, and some extra decorative treatment will be provided in the entrance hall, lounge and restaurant.

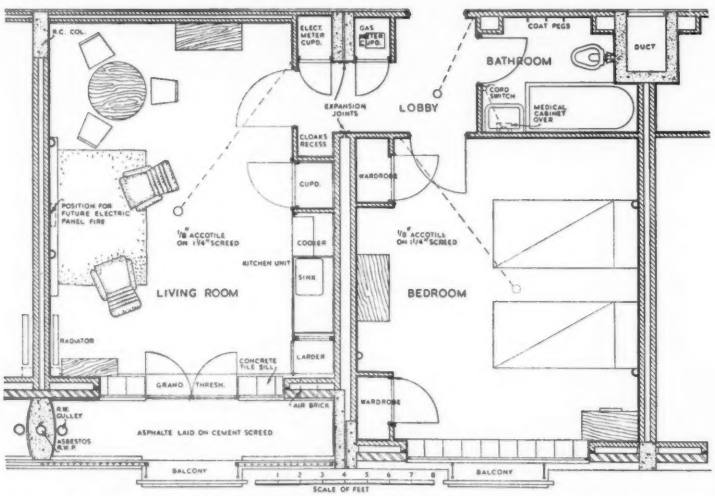
The Assistant Architect is E. H. Sadler, A.M.I.Struct.E. [*A*], and the Structural Engineers are Bylander and Waddell.



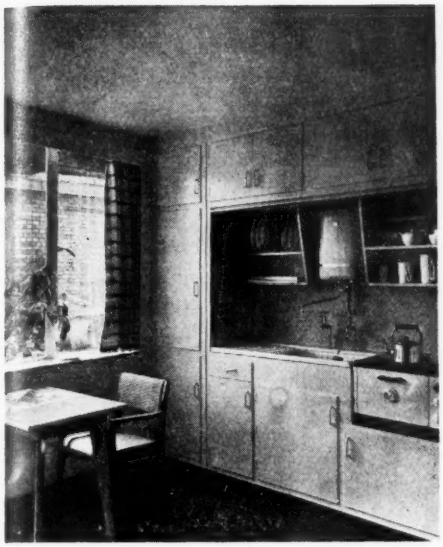
Model view of the main block. The reinforced concrete frame is expressed on the façade



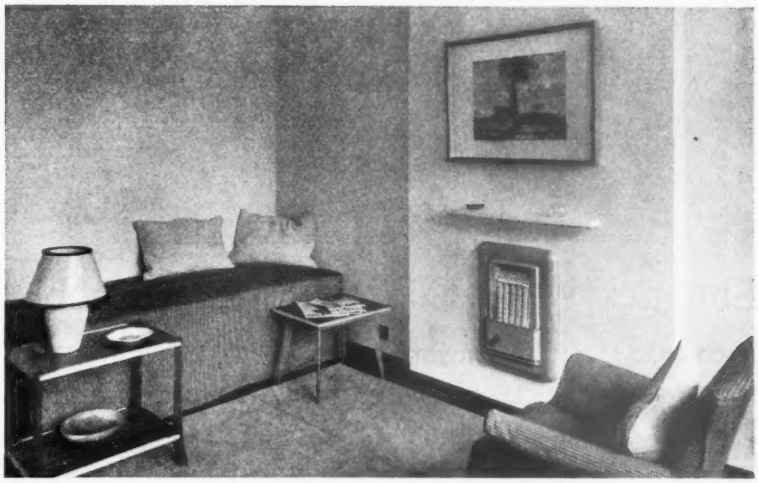
Detail plan of a typical one-room flat of which there are 139

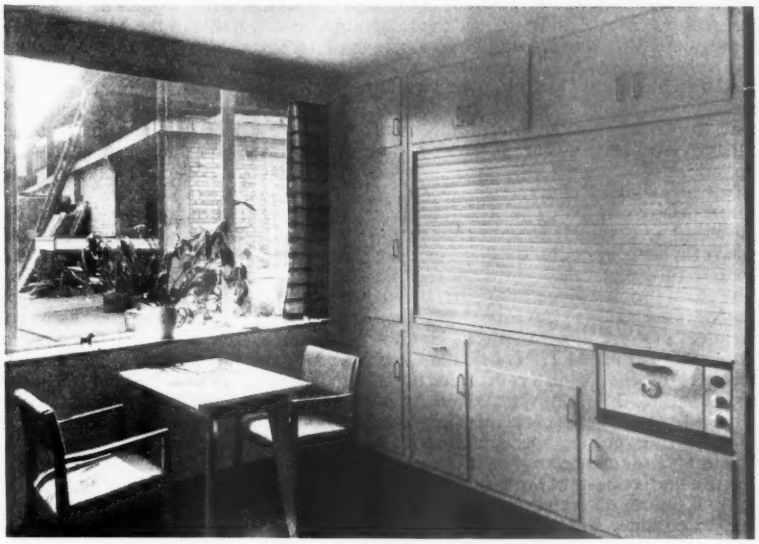


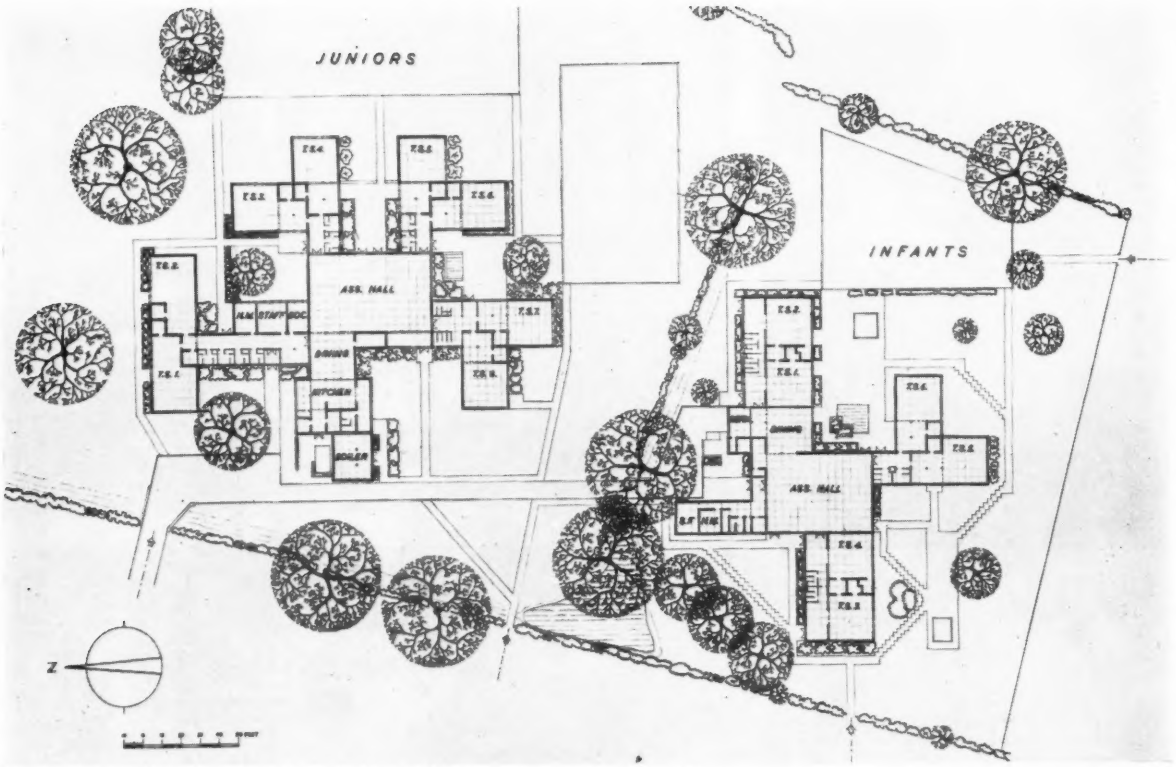
Detail plan of a typical two-room flat over the main entrance. The top floor flats are similar but smaller. There are 22 two-room flats



A full sized mock-up of a typical one-room flat was made during the design stage of the scheme. These five photographs were taken in the mock-up which was fully furnished. The only changes have been the substitution of electric for gas fires and an extension of the central hot water system to the sinks instead of the sink heaters. Note in the bottom right photograph how a rolling shutter shuts off the sink compartment







The project consists of two schools, for juniors and infants respectively, on one site

Limbrick Wood County Primary School, Coventry

Architect: D. E. E. Gibson, C.B.E., M.A., M.T.P.I. [*A*], in association with S. A. W. Johnson-Marshall, B.Arch [*A*], Chief Architect, Ministry of Education, and the Bristol Aeroplane Company (Weston) Ltd.

THE MINISTRY OF EDUCATION have been engaged on a scheme for working out designs for schools in collaboration with local authorities, with the object of producing a prefabricated system of construction of good architectural quality that would enable single-storey schools to be built at competitive prices and more rapidly than hitherto, especially in districts where building labour is scarce.

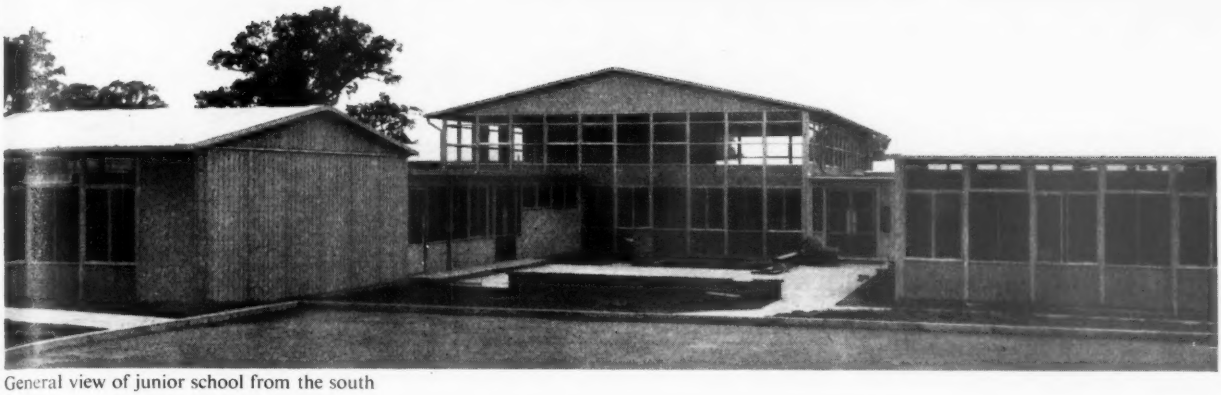
Notwithstanding a very small building force, and with more priority building schemes than normal, Coventry has to provide for a school population that has risen from 26,000 to 40-50,000 in a decade. To solve this problem, one which is by no means restricted to Coventry, the City Architect of Coventry, Mr. D. E. E. Gibson, C.B.E., M.A., M.T.P.I. [*A*]; the Chief Architect of the Ministry of Education, Mr. S. A. W. Johnson-Marshall, B.Arch. [*A*]; and the Bristol Aeroplane Company (Weston) Ltd., got together and a team of architects and engineers was formed to improve the flexibility of the existing B.A.C. Mark 1 system of prefabricated construction, to consider structural details and to produce buildings that can satisfy modern educational requirements and be built at a figure acceptable to the Ministry of Education. The new system thus developed was called B.A.C. Mark 1A. Messrs. Gilbert Ash, Ltd., were appointed general contractors and their staff worked with the team from the beginning; an arrangement that proved sufficiently successful to warrant the introduction of a five-year school building programme.

At Limbrick school the infants' department is almost a hand-made prototype and the junior department is the first 'off the production line'. The chief differences between the Mark 1 prefabricated school marketed by the B.A.C. and the new Mark 1A are as follows : The bay system has been amended to give the flexibility of semi-grid planning. The 4 ft. horizontal module has been retained but a vertical module of 1 ft. 3 in. has been introduced to give more vertical flexibility, and ceiling heights of 7 ft. 9 in. to 14 ft. 9 in. are available. Windows have been changed to conform to this module.

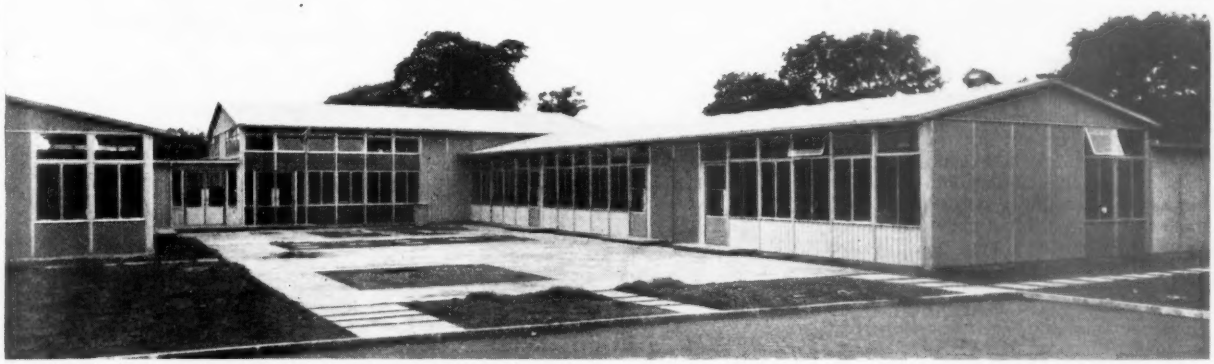
The 1-degree pitch roof has been altered to a flat one, and wind-bracing fins are now needed only for higher buildings such as assembly halls. These changes have allowed details to be revised, and now timber skirtings are used instead of aluminium sheeting, and aluminium extrusions cover vertical module units and electric cables, instead of hardboard strips. Ceiling panels are supported by aluminium strip, and hardboard is now the only internal finish for external walls, the external cladding being corrugated aluminium sheets with glass silk quilting between.

Planning Objectives

The team aimed at giving each department a focal centre—the assembly hall—with more of the character of a gymnasium than of a hall for annual plays and pageants. It was also desired to minimise circulation space and to ensure flexibility of use to as much space as possible; further, to provide teaching spaces that by their shape and daylighting allow group work and so do not force a teacher to adopt directional teaching methods. Another aim was to give a domestic atmosphere to all teaching spaces,



General view of junior school from the south



The infants' school seen from the east. A classroom wing on the right

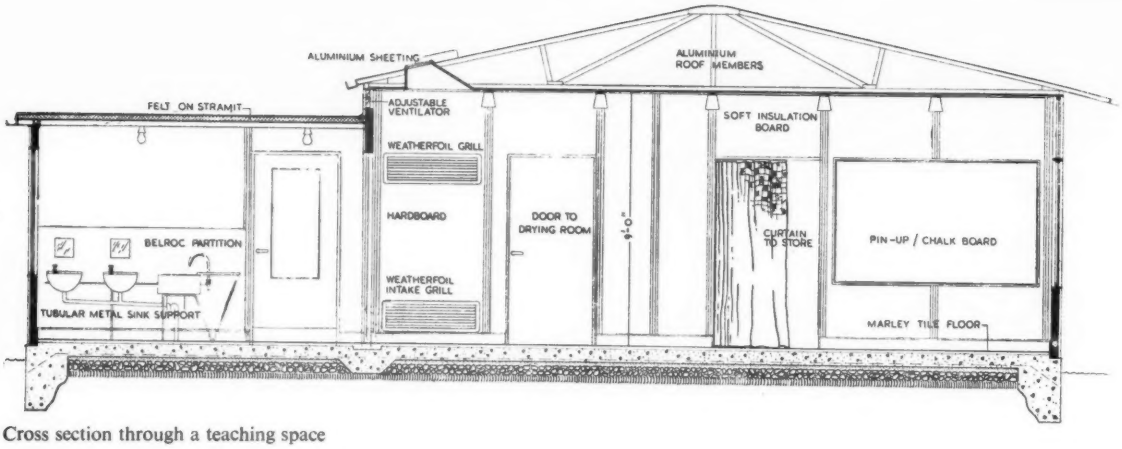
A classroom in the junior school

A classroom, showing additional teaching space

especially in the infants' department, and to further a sense of transition from infants' to junior school; also to integrate each department and to place the head teacher in a central position so that she is not isolated from the activities going on in the furthermost classroom. Finally, to arrange formal and informal play areas where the children's imagination can be exercised and stimulated.

Description of School

The span of the infants' assembly hall is 40 ft. with a ceiling height of 12 ft.; the junior hall is also of 40 ft. span but with a ceiling height of 14 ft. 9 in. In each case the hall is centrally placed and is used as circulating space; the classrooms lead off from it in pairs, each pair having its own cloakroom and lavatory. Each hall is planned with the dining space *en suite*, so



Cross section through a teaching space

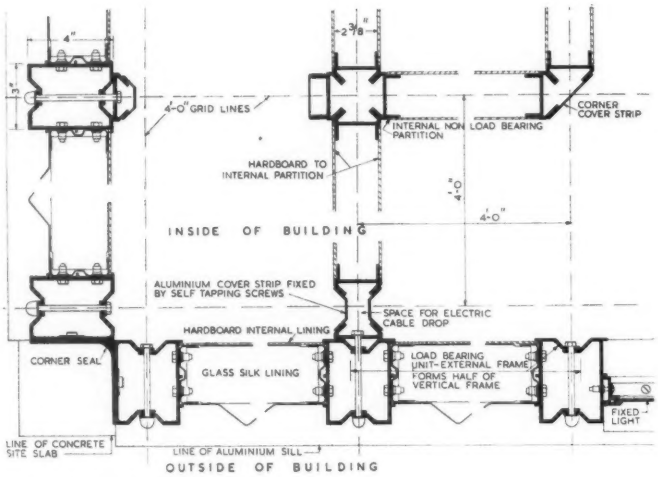
that the hall can be used for dining, or the dining space utilised as an additional teaching space. All teaching spaces are 9 ft. high, except one 10 ft. 3 in. space in the junior school. Where the eaves of an apartment are above the level of the adjoining flat roof, cross ventilation is obtained through ventilators under the eaves, and the daylight factor is maintained by means of fixed roof lights.

In both schools there are movable cloak trolleys so that clothing can be packed away during school hours and the space that would normally be occupied by fixed racks can be used as an extension of the teaching space or as a work space. In the infants' department the trolleys can be wheeled into the drying rooms. In addition to the hat peg rails these trolleys have shelves running along each side with cross bars under, for shoes and Wellington boots.

In the infants' department the lavatories form part of the classroom suites; the partitions are made low for purposes of inspection and the water waste preventers have been specially silenced. Curtains screen teaching spaces from stores and, in the infants' department, separate the lavatories from the teaching spaces. The floor finishes are Marley tiles for the assembly halls and teaching spaces, and granolithic for the stores and lavatories.

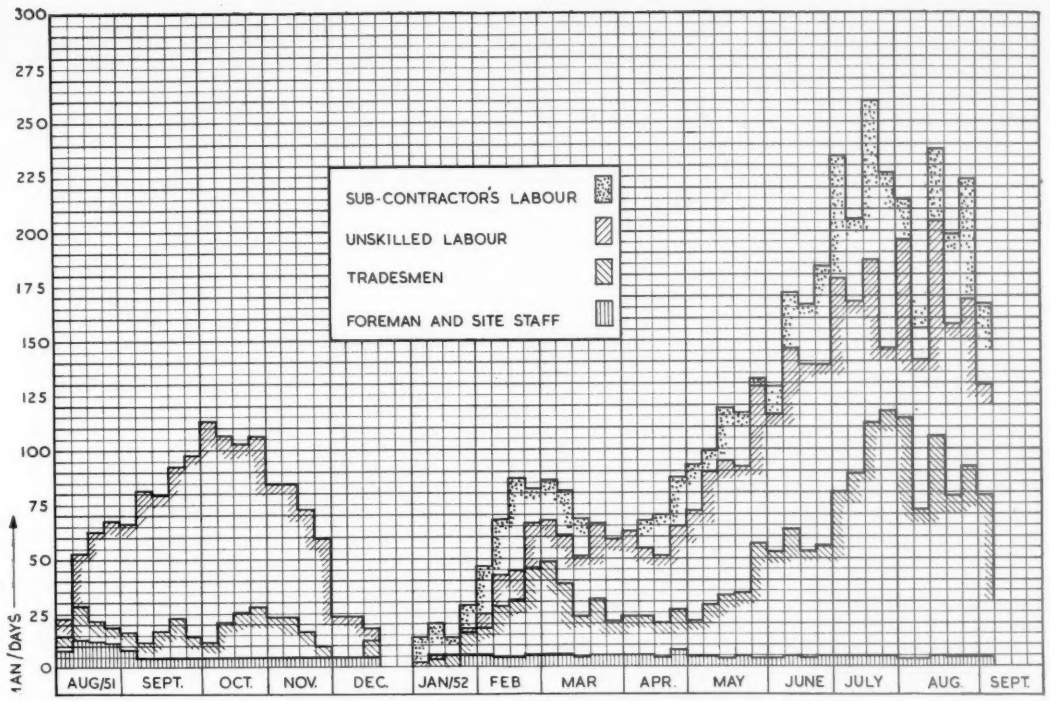
Careful consideration has been given to the use of colour; in the classrooms the tints are quiet and restful, but in other rooms they are in stronger hues. On the exterior, various colours have been used to give contrast and interest. Internally, some hardboard wall panels and all the ceiling panels have been left untreated, but the roof light jambs have been distempered white. Grey Munsell No. 8 has been used generally for hardboard partitions.

Heating has been provided on the Weatherfoil system of space and hot water heating; the heating batteries being thermostatically controlled. Hot water is supplied from calorifiers placed in or near each lavatory group. Oil fuel is used. For the electrical supply braided cable has been used instead of conduit, and has proved to be a speedy method of installation. The infants' school was wired in three weeks. Instead of a few high-wattage points a

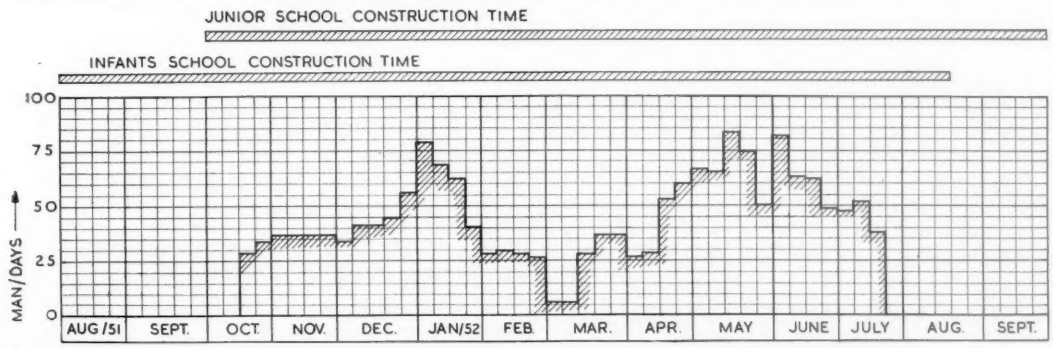


Detail of frames and panel fillings

Lavatory accommodation in the infants' school



Graph showing composition of general contractors' labour in terms of man/days per week



Graph showing site labour of Bristol Aeroplane Company's staff on assembly of prefabricated elements

greater number of low-wattage lights have been used, and simple light fittings have been selected; the largest assembly hall fitting cost under £1.

Bearing in mind that an average speed of erection for a secondary school is three years, and two years for a primary school, it is of interest to learn that site works for the infants' department began on 1 August 1951 and that work on both schools was completed by 2 September 1952. The graphs on this page show the labour engaged. Costs are shown in Table 1.

Some Figures of Cost and Labour

Space heating and hot water: £4,950, £8.84 per place, £3·73 per sq. ft. Electrical installation: £3,624, £6·47 per place, £2·73 per sq. ft. The average labour force during the contract was 22 men per day. The general contractor's labour, including nominated sub-contractors, averaged 17 men per day. The value of work executed per man/year was £2,975, or £248 per man/month. The area of work executed per man/month was 79 sq. ft.

Staff responsible for work on the project

City of Coventry Architectural and Planning Department. Architects: E. C. Tory [*A*], C. A. Grey [*A*], D. J. Chalk [*Student*]. Quantity Surveyors: R. F. Lear, A.R.I.C.S., C. Seed, A.R.I.C.S., F. J. Stimpson.

Ministry of Education, Architects and Building Branch. Architects: J. C. Loyd [*A*], M. Smith. Quantity Surveyor: J. Nesbit, A.R.I.C.S.

TABLE 1

	Places	*Area sq. ft.*	*Sq. ft. per place*
Infants'	240	10,866	45·2
Junior	320	15,662	48·9
Totals	560	26,528	47·3 average

	B.A.C.	*Gilbert Ash*	Total
Cost of Infants'	£16,240	£18,838	£35,078
„ Junior	£24,395	£23,754	£48,148
Totals	£40,635	£42,592	£83,226

B.A.C. costs £67·66 per place, £1·49 per sq. ft. Gilbert Ash £78·50 per place, £1·73 per sq. ft. Totals: £146·16 per place, £3·22 per sq. ft.

All the above figures are based on the gross cost of the schools and have not been reduced to the net basis, which was within the Ministry's figure of £140 per place.

Load-Bearing Wall Construction

By T. P. O'Sullivan, Ph.D., M.I.C.E.

An examination of the technique of designing and constructing buildings, with particular reference to those eleven storeys in height, in brickwork without framing of steel or reinforced concrete, and using only 13½ in. and 11 in. walls. This is made possible by recent research into the load-bearing capacities of bricks and mortars, and their manufacture to British Standards, the technique of their use for high-strength brickwork being described in British Standard Code of Practice No. 111. The method is specially of use in cellular multi-storey buildings such as blocks of flats and offices.

Introduction

Continuous increases in building costs, combined with the world shortage of steel, have been so evident during the last few years that these, without any other, would provide sufficient incentives to look far into unexplored fields in building design and construction. The development of prefabrication has opened a vast field to the building industry, more particularly in the case of the single- or two-storey building. In the case of the multi-storey building, however, developments, although they may be traced, seem restricted in scope, so that new projects tend for the greater part to fall back on established practice. The most notable departure lies in the use of precast reinforced concrete beams and columns in building up a structural frame.

History

It is interesting to consider the trends in construction of dwelling and office buildings of up to say eleven storeys in height, so many of which have been built in large cities since the end of the last century. The earliest buildings of this type were almost always of load-bearing brick construction; in the case of a building of 90 ft. to 100 ft. in height a thickness of wall of 2 ft. 3 in. being required at the lowest storey. The regulations which demanded such a thickness were probably well justified having regard to the great variation in quality of bricks obtainable at the time and the almost exclusive use of lime mortar, oftimes of haphazard mix. Moreover, examination of many such walls shows that they are not far removed as regards workmanship and load-bearing capacity from the old rubble-filled stone walls with joints not fully flushed up.

Not long after the turn of the century structural steel and reinforced concrete became popular media for providing load-carrying frames; these it was found facilitated flexibility in planning and enabled walls to be, if external, of the minimum thickness of permanent material, and if internal, of lightweight block or lath and plaster partitions. The curious position arose of the erection of a number of buildings with reinforced concrete frames carrying walls themselves of reinforced concrete. Thus a monolithic cellular construction was introduced without any advantage being taken of the fact to reduce the quantities of steel and concrete used.

Present Position

There would appear to be many factors in their construction militating against the promotion of schemes for eleven-storey dwelling or office blocks and other buildings of a similar nature. On the one hand massive brick walls at the lower storeys, which are both costly and seriously encroach on space, will be involved; or on the other, frames requiring considerable quantities of structural steel or rod reinforcement must be provided. However, to meet the new circumstances following the availability of bricks and cement of improved qualities and the proper use of cement and cement and lime mortars, appropriate bye-laws and recommendations have been established (see Appendix I) to enable load-bearing walls to be utilised to the best possible advantage. These have culminated in British Standard Code of Practice No. 111, published December 1948 (CP 111).

Type of Building

(*a*) *Cellular Buildings.* Load-bearing wall construction as a medium is best adapted to multi-storey buildings of cellular formation, such as dwellings and offices, where the unit lay-out is the same at each floor level. Advantages in both planning and design can be reaped by adopting a load-bearing system of spine walls running across the length of the building. Amongst these are: (i) By allowing for the floor to be cantilevered out beyond the cross walls at extreme ends of the building, the entire exterior walls may be made non-load-bearing, so that a complete glass elevation is attained by the architect if desired. (ii) The load-bearing walls are all short and protected from the extremes of temperature and varying conditions of humidity; moreover, loading from floors approaches the concentric. These favourable conditions are far from obtaining in the case of external walls. (iii) Certain high-strength bricks are obtainable, which absorb rather more moisture than permitted by British Standard Specification. They cannot be used where there is a possibility of damage by frost, but may be used for interior walls at considerable savings in cost. (iv) By using interior load-bearing spine walls considerable choice may be easily exercised in the external wall construction in view of the general relief afforded the latter in carrying any applied loads.

(*b*) *Non-cellular Buildings.* Big stores, warehouses, factories and other buildings, of which the lay-out precludes the use of cross spine walls at a distance apart not exceeding 20 to 25 ft., will not be suitable for load-bearing wall construction. It may, however, be an economic proposition to substitute piers in brick or unreinforced concrete for steel or reinforced concrete columns. Such instances would need careful examination, each on its merits.

(*c*) *Composite Buildings.* The case of a building like an hotel is of special interest, having a cellular formation enclosing bedrooms and suites at the upper storeys, but large open areas at the lower for banqueting halls and the like. In the writer's opinion, a load-bearing wall system above, resting on a steel concrete and brick base structure, may be ultimately found to be the best solution. Until C.P. 111 is amplified or a new code of practice is produced, fully covering the design of the diaphragm beam, such an arrangement is not recommended. The deflection that must take place to a beam carrying a heavily-loaded wall will set up additional stresses which cannot at present be catered for by C.P. 111.

Effects of Height

(*a*) *General.* The full potentialities of load-bearing wall construction in accordance with C.P. 111 seem to have been largely overlooked. Whilst this Code is perfectly general in scope, covering, *inter alia*, block construction whether brick, concrete or masonry, the writer has so far limited his detailed examination to its application to brick construction.

(*b*) *Internal Walls.* Consider first the interior cross spine walls to a building eleven storeys in height. Since this wall may be a party wall it is important that its acoustic properties be borne in mind. The 11 in. cavity wall has great advantages for such a wall, its sound insulation being better even than that of a 13½ in. solid wall; the conditions of minima eccentricities from floor loads as compared with external walls are favourable to its adoption; moreover, the cost exceeds that of a 9 in. wall by very little, the stretcher bond offsetting for the greater part the cost of providing and fixing the wire ties. With domestic loading the cross spine walls at 15 ft. centres in 11 in. cavity construction may be taken from 1st floor to roof with bricks having crushing strengths as follows: 1st floor to 4th floor, 7,000 lb./sq. in.; 4th floor to 7th floor, 5,000 lb./sq. in.; 7th floor to 10th floor and 10th floor to roof, 3,000 lb./sq. in.

(*c*) *External Walls.* Although it is quite possible to design an end load-bearing external wall in 11 in. cavity construction, to comply with C.P. 111, the writer advocates the use of a 13½ in. solid wall for the following reasons: (i) On a 15 ft.

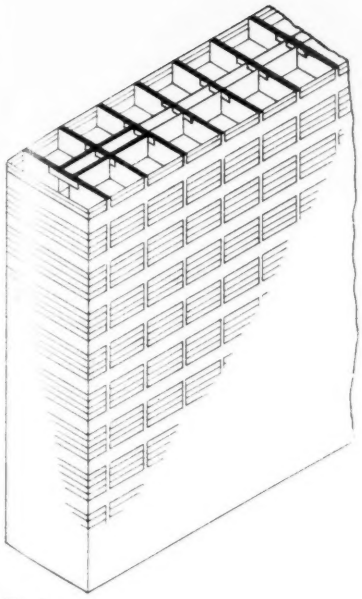


Fig. 1.

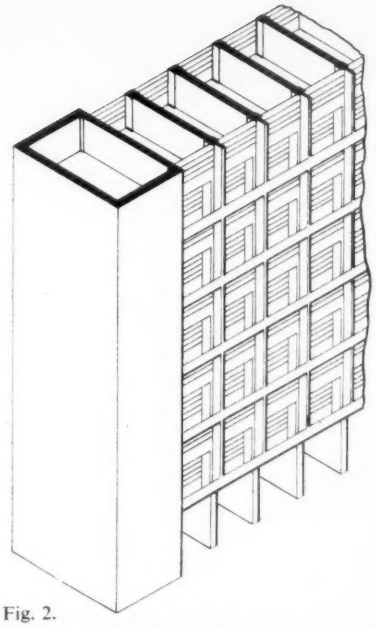


Fig. 2.

Diagrams of multi-storey buildings with roof removed, carried as far as possible on 11 in. cavity cross spine walls. Fig. 1 shows that by cantilevering floors over the end spine wall an almost uninterrupted belt of glass may be carried round the building. Fig. 2 shows ends of interior spine walls increased to 13½ in. solid to cater for balcony loading. 13½ in. external walls at end give wind bracing in direction of length. A 13½ in. external end wall gives lower brick stress than an 11 in. cavity wall

wall spacing in an eleven-storey domestic building the brick strength required at the lowest storey need not exceed 1,500 lb./sq. in. This allows scope in the selection of a suitable facing brick and for provision of window openings. (ii) Awkward and expensive arrangements for insulating the leaves where floors are carried through to the outer leaf are avoided. (iii) Considerable differences in changes of length between the inner and outer leaves may be produced by alternate drying and wetting and heat and cold in a cavity wall. These conditions coupled with the necessity for the use of a stronger mortar than required in a lower-stressed 13½ in. wall may cause serious cracking.

Design

(*a*) *Basis*. The use of an 11 in. cavity wall as a load-bearing member through eleven storeys as proposed in the preceding paragraph may appear disturbing without some knowledge of the basis of design. C.P. 111 was formulated having regard to all available evidence, including an elaborate programme of tests carried out over a period of years at the Building Research Station. An account of the most interesting of these is incorporated in a paper entitled 'The Structural Uses of Brickwork" by Davey and Thomas[1]. Further information on the subject was contained in Davey's paper entitled 'Research in Great Britain on the Performance of Burnt Clay Products in Structures and its Influence on Practice'[2]. The tests described in these papers relate to full-scale brick panels and piers loaded to failure. Various grade bricks, mortar mixes and conditions of loading were employed, the effect of eccentric loads being particularly carefully examined. With regard to cavity walls, tests were made of panels to failure with one leaf only loaded, this load itself applied at various degrees of eccentricity with regard to the leaf.*

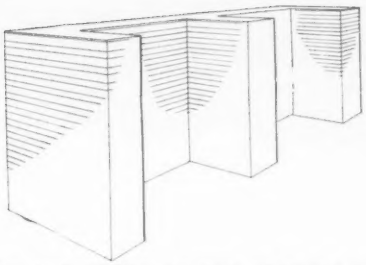


Fig. 3: Exemplifies the Code of Practice on loading. Provided the projection of a wing does not exceed twice its width or distance between wings four times the width, the height-width ratio is unaffected by wind pressure

In view of the requirements of the various British Standard Specifications[3] governing quality of bricks specifying average strengths from batches, it is important to realise the extent of variations to be expected. Bonnell, Butterworth and Newman reported in 1947[4] on the results of crushing tests carried out by them on samples of 79 different kinds of brick. The samples were taken either by themselves or under their supervision from the manufacturers' works. Review of the results shows that the coefficient of variation in the strength of the samples was of the following order: (i) Low and medium strength bricks within 20 per cent and in a few exceptional cases 30 per cent. (ii) High strength bricks within 15 per cent, and in a few exceptional cases 20 per cent. It is worthy of note that the total number of bricks tested was 5,784.

Below is reproduced a table of the maximum *permissible* uniformly distributed compressive strengths for *brick*, concrete block and masonry construction as laid down in C.P. 111.

It will be observed that the factor of safety on the brick crushing strength varies in the case of low-strength bricks from 10 in. high-strength mortars to 13½ in. low-

* It is important to note that on p. 28 of paper[1] Davey and Thomas affirm that when a wall is loaded without eccentricity, the load being shared equally by both leaves, the strength may be similar to that of a solid wall with the same cross sectional area of brickwork. Hence, in the case of an internal cavity wall the C.P. 111 is very conservative in specifying a considerably lower safe load for a cavity wall as against a 9 in. solid wall. The conservative basis laid down is undoubtedly to cater for cavity walls used as external walls.

TABLE I.—Maximum permissible uniformly distributed compressive stresses (at and after the stated times) on masonry members with slenderness ratio of unity.

Description of mortar	Mix (parts by volume) not weaker than			Hardening time after completion of work (days)	Maximum uniformly distributed stress in lb./sq. in. corresponding to units whose crushing strength (in lb./sq. in.) is:								
	Cement	Lime	Sand		400	1000	1500	3000	4000	5000	7500	10000	10000+x
(i) Cement	1	0–¼	3	7	40	100	150	210	250	360	510	660	660+0·042x but not more than 900
(ii) Cement-lime	1	1	6	14	40	100	140	190	230	260	350	350	350
(iii) Cement-lime	1	2	9	14	40	80	120	170	210	250	350	350	350
(iv) Cement-lime	1	3	12	14	30	70	100	130	170	200	200	200	200
(v) Hydraulic lime	—	1	2	14	30	70	100	130	170	200	200	200	200
(vi) Non-hydraulic	—	1	3	28	30	60	80	100	100	100	100	100	100

strength mortars. For high-strength bricks in high-strength mortars the factor of safety is 15. Perusal of the test results in Davey and Thomas's paper shows a factor of safety from tests on brick piers of the order of 6 for brickwork. Reductions in the permissible stresses are laid down to allow for the slenderness ratios of walls, while increases not exceeding 50 per cent in toto are permitted for local loads such as beam bearings and lateral forces such as wind.

It is worth noting that the basic factors of safety in concrete monolithic and reinforced is about 3 on crushing while the factor on steel is 2 on yield, and less than 4 on the ultimate stress.

(*b*) *Various Features.* (i) Wind: The effects of lateral pressure due to wind become increasingly important in the case of buildings of the order of eleven storeys. C.P. 111, in line with the Codes for Structural Steel and Reinforced Concrete, permits an increase on stress of 25 per cent where such increase arises solely from wind forces. Wind velocities and pressures to be taken into account are defined in British Standard Code of Practice C.P.3 (1952), Chapter V, Loading. Maximum pressures for different locations have been laid down in this document, based upon the latest meteorological evidence and examination of wind tunnel test results. For locations except those near the sea coast or estuaries or for altitudes over 500 ft. above sea level the maximum pressure is determined at 13 lb./sq. ft. for a building 100 ft. high. This increases to 17 lb./sq. ft. for a building 200 ft. or more in height. For exposed sites on the coast the pressures will be nearly doubled.

Examination of these requirements shows that generally inland a building 100 ft. high will be within the permissible increase, if 25 ft. wide, whereas a building on the coast must be 33 ft. wide—ratios of height to width being 4 and 3 respectively. The decrease in these ratios with increase in height is relatively small. At 150 ft. height for example, the ratios are still in excess of $3\frac{1}{2}$ and just about $2\frac{3}{4}$ respectively. If stronger walls are provided to allow for wind pressure the ratios above may be exceeded according to the Codes, but this is not recommended. Great opportunities in planning are, however, afforded by the Code Recommendations as follows: 'The effect of walls and floors in stiffening a building framework against wind forces may be allowed for. Where adequate stiffening is provided by walls or by floors and walls, calculations for the effects of wind, except in regard to wall panels and foundations, need not be made on: (*a*) a section adjoining two parts of an adequately stiffened building if the height of the section exceeds twice its width, but the length of the section does not exceed four times its width: (*b*) a wing of such a building if it does not project more than twice its own width.'

(ii) *Temperature and Shrinkage.* The most important consideration in making provision for expansion joints is in the roof and floor slabs where these are in lengths in excess of 100 ft. Over this length a concrete floor if cast in summer may be reduced in length during the winter some $\frac{3}{8}$ in. Unfortunately, a floor made discontinuous across a cavity internal load-bearing wall may move in 15 ft. perhaps $\frac{1}{16}$ in., and thus loosen the ties across the cavity. It is suggested that a dropped bracket support therefore be provided to permit free movement. The problem of expansion in a longitudinal external wall is less serious, particularly if a clay brick is used in a mortar containing at least an equal quantity of lime to cement. The clay brick has a coefficient of expansion about half that of cement mortar, hence lime added to the mortar is desirable to impart in it some plasticity. However, it will be preferable but not so essential to provide an expansion joint in the brickwork in line with that through the floor.

(iii) *Acoustics.* As already indicated it is largely for its acoustic value, which is better than that of a $13\frac{1}{2}$ in. wall, that the 11 in. cavity internal wall is favoured.

Execution

The writer must emphasise that if a building is properly designed in accordance with C.P. 111, having regard to all its provisions and limitations, no anxiety should be felt with regard to its construction. It is assumed that a resident supervisor will be available to see that the appropriate bricks and mortar mixes are used where specified. The factors of safety in the Code envisage an overall measure of control of material and workmanship. Therefore unless there is a combination of general negligence on the parts of the contractor and the supervisor, the possibility of any extensive dismantling and reconstruction being required should be non-existent. With regard to the quality of the bricks themselves, an inspection of the test records kept by the manufacturer at his works and method adopted of taking samples will give the best guide as to the type of product that may be expected.

Savings in Steel

In an eleven-storey block of dwellings 105 ft. high and 35 ft. wide the amount of steel per bay of 15 ft. run was found to be as follows:

Type	*Frame*	*Floors*	*Lintels*	*Total Tons*
Steel-framed building	25	7	1	33
Reinforced concrete-framed building	9	7	1	17
Load-bearing brick building	—	7	2	9

It will be seen that the proportions of steel required in each case are approximately 4 : 2 : 1.

Conclusions

(*a*) British Standard Code of Practice 111 (1948) permits very great advances to be made in the design of load-bearing wall buildings. (*b*) Where walls are required in any building, possibilities should be carefully examined of their carrying their own load and that of the floors to the ground, rather than along a beam to a column and then spread over a greater area of ground. (*c*) Dwellings and offices such as adapt themselves to cellular planning are best suited to load-bearing wall construction. Buildings with large unbroken areas at each floor are not well suited, but it may prove on investigation that brick or mass concrete piers can be used in lieu of steel or reinforced concrete columns. (*d*) It is recommended that the building be carried as far as possible by cross spine walls. If in brickwork, these may be economically made of 11 in. cavity work through most of eleven storeys of a building having domestic loading. End external load-bearing walls should be of $13\frac{1}{2}$ in. brickwork minimum. (*e*) By cantilevering the floor over the end interior spine walls it is possible, if desired, to have belts of windows at each floor encircling the building, broken only at the sides by the thickness of the cross spine walls. (*f*) In the case of an eleven-storey building 100 ft. high carried on cross spine walls the width may be reduced to nearly one-quarter of the height before wind stresses affect the design. (*g*) In a load-bearing dwelling block with reinforced concrete floors, eleven storeys high, approximately three-quarters and one-half the steel are saved over steel and reinforced concrete framed buildings respectively. In the case of higher buildings the savings will be greater.

Acknowledgments

The writer wishes to thank Mr. R. A. H. Livett, O.B.E. [*A*], City Architect of Leeds, for drawing his attention to certain interesting aspects of the problem. The writer also wishes to acknowledge the use of design and development work carried out by his firm, Brown, O'Sullivan and Partners, consulting engineers, of Westminster, and to thank in particular Mr. R. Bolsover, A.M.I.Struct.E., who prepared so much of the data.

APPENDIX I

Notes on Bye-laws and Codes of Practice

One of the first attempts to depart from the empirical in the design of load-bearing walls is incorporated in the L.C.C. Bye-laws introduced in 1938 in pursuance of the London Building Act of 1935. This defines the maximum compressive stresses in load-bearing walls, based upon bricks of a specified strength, mortar of a specified mix, or concrete of a specified strength, as the case may be. Provision was made for varying slenderness ratios, for the effects of local loading.

In 1937 steps were taken to produce a British Standard governing load-bearing brickwork and masonry (not reinforced). The drafting committee consisted of representatives from various Government Departments and scientific and industrial organisations. Their findings were issued as a British Standard 1145 (1943). Recommendations for the design of load-bearing members went further than the L.C.C. Regulations of 1938. The principal developments were recommendations covering different mortar mixes with the same strength of brick or masonry, giving a

series of safe compressive stresses, in accordance with the mortar mix used. More detailed recommendations were also made in respect of provision for varying slenderness ratios and local loads.

The latest British recommendations on the subject, embodied in British Standard Code of Practice No. 111 (1948) were the result of findings of the Codes of Practice Committee established in 1942. This Code, entitled 'Structural Recommendations for Load-bearing Walls', was prepared by a Committee convened by the Institution of Structural Engineers at the request of the Codes of Practice Committee. The value of this Code of Practice was considerably enhanced by having available the results of an intensive programme of research and full-scale tests made at the Building Research Station by Davey and Thomas, amongst others. Apart from constituting a distinct advance on any preceding recommendations or regulations, provisions were made covering the design of cavity walls and isolated brick piers.

APPENDIX II

References

[1] *The Structural Uses of Brickwork*, by N. Davey, D.Sc., and F. G. Thomas, Ph.D., M.I.C.E. Proceedings Institution of Civil Engineers—Structural and Building Division, 1950.

[2] *Research in Great Britain on the Performance of Burnt Clay Products in Structures, and its Influence on Practice*, by N. Davey. Proceedings Building Research Congress, 1951.

[3] The Principal B.S.s are:

(*a*) Sand Lime Calcium Silicate Bricks. B.S. 187: 1942 (amended 1947).

(*b*) Method of Testing Clay Building Bricks. B.S. 1257: 1945.

(*c*) Clay Engineering Bricks. B.S. 1301: 1946.

[4] *The Determination of the Crushing Strength of Building Bricks*, by D. C. R. Bonnell, B. Butterworth, and A. J. Newman. From the Transactions of the British Ceramic Society, Vol. XLVI, September 1947.

Town and Country Planning: an end or a means to an end

By Ronald Bradbury, Ph.D., A.M.T.P.I. [*F*]

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IN HIS LECTURE 'Twenty Years After', printed in the March issue of this journal, Professor Sir Patrick Abercrombie gave one of his inimitable racy reviews of the history and development of planning in the last two decades. He did not, however, attempt, as he put it, 'to peer into the future', preferring to leave that task to a younger man. Whilst in this latter category, I do not pretend to be a prophet, and therefore cannot accept the Professor's challenge. I have, however, been giving some thought to the current attitude of the public and planners alike to town and country planning, and am firmly of the opinion that it is time that all those who believe in town and country planning should take stock before we take the next step into the future.

'This town and country planning business is just a lot of fanciful nonsense. Quite frankly, I have lost faith and interest in it'. How often, during recent months, has one heard expressions of this kind, or has read very similar sentiments, expressed perhaps rather more obliquely, in newspapers and periodicals! Even the Government, sensitive to this changed attitude of public opinion, first discreetly merged the Ministry of Town and Country Planning with local government under the title of 'The Ministry of Local Government and Planning', and then later finally dropped the word 'planning' altogether in favour of 'The Ministry of Housing and Local Government'; thereby bringing into prominence that aspect of planning which is the most inescapable. Surely, these changes are not just the result of whims, but are based on a feeling for the changing views of the bulk of the population.

Somewhere in the popular press, sabotage has been cynically defined as 'throwing a planner in the works', and this idea of the destructive rather than the constructive nature of planning is, unfortunately, spreading rapidly. Despite the enthusiasm for town and country planning which was everywhere apparent, both before and immediately after the cessation of hostilities, the subject has now lost its popular appeal. Yet never at any time in the history of this nation has the need for town and country planning been so real or the problems which confront the planners more difficult.

Surely it is time that the architects and planners of this country should consider seriously whether or not this growing lack of faith in the virtues and importance of town and country planning is in any way due to their own activities and, as a corollary, whether they can do anything to stem the downhill slide. After all, there is in the British people a sound core of commonsense, and if this be the case there must surely be reasons for the waning popularity of planning.

Of course, it is easy to dismiss this whole question by relating it wholly to the economic condition in which the country finds itself today. Whilst it is undoubtedly true that the economic climate is most unfavourable for projecting plans for future developments of any kind, nevertheless I believe that the present economic difficulties are by no means the sole reasons for town planning's loss of face. Public opinion is always prepared to recognise the realities of a situation and to make appropriate allowances for current difficulties. It is not prepared, however—and this is the heart of the question—to tolerate the mere dreaming of dreams or the seeing of visions unless someone can explain the steps by which, as conditions permit, those dreams and visions can have a reasonable chance of becoming realities. The people in this country, as recent history shows, are prepared to follow those leaders who, whilst showing them an objective, can at the same time explain to them how, if certain steps are taken—even though such steps may be expensive, difficult and even dangerous—the desired end can at last be achieved.

Many town planners who, both before and immediately after the end of the war, dreamed town planning dreams and saw town planning visions which they set down as plans or incorporated in elaborate advisory reports, appear in the main to have ignored the necessity of explaining to the public how their plans and visions might, by a series of logical steps, be realised. They have concentrated largely on the ends of planning rather than the means of planning, with the result that the public appear to be writing them off as long-haired visionaries.

One way in which planners can in some degree restore public confidence in planning is to learn to talk a language which the committee member, and indeed even the ordinary man in the street, can understand. The purpose of planning is the betterment of living and working conditions for all, and it does not give much confidence to the public when what they regard as human problems, explainable in ordinary English, are translated by the experts into an obscure jargon. Mr. Smith does not like to be called 'a unit' or 'a bit of overspill'! Conurbations, green belts

and gross densities become words of terror, merely on account of their obscurity. The profession must bear this important aspect in mind when framing its propaganda, whether in the form of written material or exhibitions for the public. Most architects and town planners think they possess the gift of explaining their proposals to the public. This is in fact not the case. Only experienced journalists, public relations officers, broadcasters and people of that kind really understand the art of explaining any matter to the public and convincing them of its merits. Town planning is inevitably a highly technical subject, and before the mass of voters will believe in it and support it they must be given to understand broadly and simply what it is and what it can do for them and their children. The continuous talking above their heads which is typical of so much town planning propaganda will never achieve this.

Nothing is more salutary than an examination of the dictionary meanings of the chief words in current use in planning. Take, for instance, the simple verb 'to plan'. Its meaning is defined as being 'to think out plans for, determine on, and devise methods of carrying out a project, etc.' The noun 'plan' means 'a methodical and considered arrangement of the various means and steps necessary to carry out a project'. It is essential for planners to note that in each case the meanings concern methods and steps rather than the project itself. In other words, the emphasis is on the 'means' rather than the 'ends'. To plan is not just to postulate a desired end. *It is to prepare a technique whereby that end can be achieved.*

Let us now consider the word 'project'. First, as a transitive or intransitive verb, it has several meanings. There is the general meaning of 'casting the mind forward in time, to conjure up or imagine something which has not yet happened'. Additionally, it means also 'to plan in the mind, contrive, scheme out; as, for example, to project a plan'. The noun 'project' means merely a plan, scheme or design. The meaning of the word 'scheme' is also interesting. As a noun it means 'an orderly systematic arrangement, a proposed method or design for doing something'. It may also mean 'an underground device, design or *plot*'! Might we not say that nowadays many members of the general public interpret a planning scheme in this last-named sense?

Surely, as a generalisation, it is true to say that town planners have on the whole been content to prepare planning schemes or planning projects rather than 'to prepare a plan'. When one casts one's mind back over the very ambitious proposals—many of which were, incidentally, extremely exciting—one is struck, when one reads the reports and considers the maps and drawings, by the small amount of attention given to the consideration of 'the arrangement of the various means and steps necessary to the carrying out of the project'. I remember one development plan which consisted of a volume about the size of one of the London telephone directories, with hundreds of closely printed pages, dozens of maps and innumerable statistical tables, yet in which only three pages were devoted to the problems of finance and the economics of the plan generally; and even then these fundamental matters were brushed aside in a series of generalisations.

Surely this is a case—and, unfortunately it is not an isolated one—of almost complete concentration on the ends to the almost entire exclusion of the means. The realities of contemporary society are such that economics cannot be ignored if a scheme or a project is to have the slightest chance of being implemented, either now or in the future. Broadly speaking, everyone who is concerned about planning is agreed, apart from some argument on aesthetic matters, as to the ends which are desired. A good deal less concentration on the ends and a serious attack on the means whereby these can have some hope of fulfilment is surely what is wanted if town and country planning is to mean anything —and indeed achieve anything—in contemporary society.

There is another dangerous tendency abroad, which has undoubtedly permeated the town planning sphere. That tendency is to ignore the importance of the stimulus for planning. Many people seem to imagine that the preparation of a scheme or project will of itself, somehow miraculously, create the 'stimulus, incentive or inducement' necessary to implement the scheme or project. It is the client—in this case, the public —who provides the impetus and stimulus. If there is no incentive or inducement for development and redevelopment in an area, there will be no possibility of implementing any plan. Whilst the welfare state can artificially create a certain impetus for development, unless there is also a general inducement or economic stimulus created by industry and commerce, development and redevelopment will be a very slow process indeed. This is why the present tendency for town and country planning to become a matter of saying 'No, you cannot do that' is so terribly damaging and dangerous to the future prospects of planning.

Town and country planning cannot of itself create impetus; it can direct, however, and canalise such impetus into the right directions. The vigour, force and stimulus for development is created in numberless ways, by numberless individuals and organisations, and it must be the purpose of planning not to frustrate, dam-up or attempt to stultify any such desires to develop, but rather to encourage and assist them wherever possible; being ready to compromise in aesthetic matters wherever there is any danger of too much control retarding the development concerned. After all, the economic, cultural and social well-being of the country is entirely dependent on the rate at which development of all kinds can be proceeded with at any time, and any action which tends to diminish that development is contrary to the national well-being. Town planners are not creators of development, although many of them appear to wish to be. They are only the agents whose job it is to do their level best to ensure that the developments as they occur are appropriately arranged in an orderly and seemly manner.

This attitude of planners towards planning is the reason why the charge of arrogance can be levelled with some degree of truth at the town and country planning profession today. And it is a further reason why, with their innate common-sense, the general public have become bored with planners and planning. Any individual who considers that he alone has the God-given gift of knowing what development will take place and when, and then assumes the right to pre-determine the pattern to which that development should conform for the period of, say, the next 20 years, can surely justly be accused, certainly of arrogance and possibly of swelled-headedness.

A comparatively cursory study of the history of urban and rural development should surely disabuse the minds of planners in this matter. Even in our own lifetime, changes have taken place which none could foresee, but which have had fundamental repercussions on the ways of life of society and, therefore, on the way in which development has proceeded during that period. One has only to think of the great social changes which the motor-vehicle has created to realise this; or, again, of the impact which the cinema, the radio, and now television have had and are having upon our way of life, or the vast areas of ground which have had to be set aside to cope with the needs of air travel, to admit the impossibility of looking very far ahead into the future with the ever-developing impact of science upon peoples and nations. Nor can we discount the world-shaking effects of such apparently quite arbitrary incidents as two world wars.

Society is an ever-changing phenomenon. Planners must, in humility, realise that the future is yet to be and that it is impossible to look into the crystal ball and see with any degree of certainty what new changes not merely the distant future, but the immediate future, may bring in the way of life of our nation and hence for planning. Surely, with so many unknowables and so many unforeseeables, we should be very chary about the way in which we set about determining too rigidly the future pattern of development.

Now all this does not mean, of course, that there is no future in planning. It merely means that we must prepare as best we can, in light of all the factors and information we have at our disposal, a general skeletonal scheme; and that in the preparation of such an outline scheme, we should devote great care and attention to the methods and steps by which the scheme might be implemented. Planning must be positive, but it must be flexible. A balanced judgment of a situation rather than an impassioned idealism is what is wanted.

Every scheme for development or redevelopment must be 'a proposition'. By this I mean that the pros and cons of each project must be clearly set out in any report dealing with it, so that the persons

who have to make the decision whether to proceed with it or not can appreciate not only what they are doing but what the effects of their decision are likely to be. 'What will it cost? How can it be carried out? When can it be carried out? What advantages will accrue if it is carried out?' These are all very relevant questions, and the facts by means of which an answer, or at least a reasonable assessment, can be given for each of them are a pre-requisite for proper planning. Indeed, without a conscientious attempt on the part of the planner to table all the data, both for and against the project, the whole affair cannot be planning at all—it will be just a shot in the dark.

Now of course when dealing with the future, one is dealing, in a general sense, with the unknowable; and it might be argued that an insistence on the facts being available before a decision is made would preclude any action being taken at all. The answer to this charge lies in man's achievements in his evolution from primitive to contemporary society. Every sensible development is a step into the future—as, indeed, is every senseless one. But the sensible development is a step forward and not a leap in the dark. There lies the difference between what is practical and what is merely visionary. Every development is a gamble, but the odds against failure are much less if all the known factors have been carefully scrutinised before the decision to undertake development is made. A balance sheet must be struck before any planning proposal is implemented.

Of course, the balance sheet will not concern itself merely with finance; other things will appear both on the debit and credit sides. Social improvement must be paid for. The important point is that a clear all-round gain must be shown to be reasonably achievable. After all, there is nothing new in this. Great planning achievements were bravely undertaken by our ancestors, for the carrying out of which we must always be grateful to their memory. The great docks, bridges, tunnels, roads, railways and the many great civic developments were all recognised as worth-while; the people who planned them could satisfy the people who paid for them that they were reasonable propositions; and therefore, despite the expense and difficulties, they were carried through.

The story of this country's urban development contains many examples where planning projects have proved to be not only socially but financially sound. The building of Kingsway through a section of slums is a case in point, for it has actually paid for itself over and over again in increased rateable value and added wealth to London. Edinburgh's New Town and the work of Grainger in the central parts of Newcastle-on-Tyne are other outstanding examples. Indeed, if a town planning proposal is a good proposal, if it can be shown to be a reasonable proposition and that considerable advantages to society are likely to accrue from its realisation, then the chances are that it will become a reality. Nothing is lost, but everything is to be gained by making the difficulties as well as the advantages perfectly plain when the scheme is under consideration.

Salesmanship in town and country planning, though necessary, is not enough; the goods to be delivered must be clearly specified and the cost of getting them must be made known. A considerable increase of local rates is a serious matter with weighty repercussions, but if it can be shown that, for the price of such an increase, the slums of the area can be entirely eradicated, then the whole question becomes a proposition well worthy of consideration by all serious-minded citizens. More than ever, in days of financial stringency, value for money is essential, and there is little hope today of any planning project proceeding unless it can be shown to be a 'proposition'.

Because of their training and outlook, architects naturally tend to over-emphasise the aesthetic side of planning. This is not to say that aesthetics are not important, but that, rather, they are a by-product which comes from a rising standard of culture and knowledge in the people generally and cannot be imposed from above with any real hope of success, at least in a democracy. The real basis of town planning is functional efficiency in relation to economics and the amount of money which a particular community can find at any one time for making improvements. Unfortunately, the public are not particularly interested in aesthetics, and merely trying to sell them a project on aesthetic grounds—unless, of course, the town is one of the few which live by attracting visitors—is not going to carry much conviction. If the public, however, can be persuaded that a scheme is a good scheme because of the many practical and social advantages which will accrue from its execution, then the architect and the planner get their chance to use their skill and design ability in its fulfilment.

The man who is in a position to start a new industry or factory is of importance—a fact well realised by most local councils. He should not be met by a series of negative restrictions. Rather should he be encouraged—though not, of course, unless he is a very enlightened industrialist, allowed to do entirely what he likes. After all, his factory will bring employment and consequently money into the place, and in the broad sense the shops, amusements and many other organisations will prosper as a result of his activities. It is enterprise of this kind which makes a town 'tick'. Architects and planners are inclined to overlook this simple fact and to regard a town merely as a planned aggregation of buildings and not as a cohesive organic growth in which people work.

One further point. Do planners always remember that they are planning for people? People are not like handbags, which can be picked up at a moment's notice, carried about anywhere, and packed or unpacked at will. People, their associations and the social organisations which they have created—often over a period of many years' existence in one place—are more like delicate plants than handbags. They have roots, and the transplanting of them is not a job which can be undertaken on drawing-board evidence alone. Any arbitrary attempt to deal with overspill problems or the redevelopment of the central areas of our cities and towns which discounts the human element and deals with the population involved as if they were handbags, is not only doomed to failure but is ethically wrong. Whilst in planning matters the customer cannot always be right, he is at least entitled to be listened to, and his wishes and desires must be met, at least to some extent, by compromise, unless town and country planning is to become wholly totalitarian. 'How would you feel, Mr. Planner, if you were one of the individuals involved in your scheme?' The golden rule of 'doing unto others as you would wish them to do to you' is just as relevant in town and country planning as in morals or anything else. It is no mere platitude to suggest that the sacred rights and liberties of the individual must be accepted, protected, and indeed expanded by town planning if it is to make a worthwhile contribution to the story of man's development.

Dare we suggest then, that a new spirit is needed in town and country planning?—a new orientation of mind based upon the acceptance by planners, in all humility, of the inescapable fact that the future and all it holds is hidden by the curtain of time; that if we are to make progress we must hasten slowly; that solid sure progress now is what is wanted; that, in many respects, the daily round and the common tasks which lie ready at hand to be done should be our first concern; that we should continue, of course, to dream dreams and to see visions, but that our main energies should be concentrated on the present time and its economics and not so much on the future; and that we should concern ourselves much more with the means of planning than the ends.

Review of Construction and Materials

This section gives technical and general information. The following bodies deal with specialised branches of research and will willingly answer inquiries.
The Director, The Building Research Station, Garston, near Watford, Herts.
Telephone: Garston 2246.
The Officer-in-charge, The Building Research Station Scottish Laboratory, Thorntonhall, near Glasgow.
Telephone: Busby 1171.
The Director, The Forest Products Research Laboratory, Princes Risborough, Bucks.
Telephone: Princes Risborough 101.
The Director, The British Standards Institution, 28 Victoria Street, Westminster, S.W.1.
Telephone: Abbey 3333.
The Director, The Building Centre, 26 Store Street, Tottenham Court Road, London, W.C.1.
Telephone: Museum 5400 (10 lines).
The Director, The Scottish Building Centre, 425-7 Sauchiehall Street, Glasgow, C.2.
Telephone: Douglas 0372.

Mettexture Process for Hacking Concrete. In the November 1951 issue of the JOURNAL mention was made of the Metropolitan Construction Company's process for hacking concrete, to which they have given the name Mettexture. The company have received so many requests for further details that they have now issued a booklet, *Surfacing of Concrete Floors*, which may be obtained free from the company at 66 Queen Street, London, E.C.4.

Identification of Hardwoods. In Bulletin No. 25 the Forest Products Research Laboratory give a method of identifying hardwoods by means of a lens key, but it is stressed that the key is designed for the use of persons with a sound general knowledge of wood structure. The method was devised by the Laboratory 15 years ago, but publication has been delayed to include as many as possible of the unfamiliar timbers that have come on the United Kingdom market in recent years.

The key employs a multiple-entry perforated-card system wherein cards are notched according to diagnostic features of the hardwoods. To identify a timber sample the pack of cards is sorted by inserting a needle into a feature hole and shaking, when those cards on which the particular feature has been clipped will fall out, and the process can be repeated with other features until the appropriate species card is isolated. The original key was based on the examination of sections under the microscope, but has now been adapted for use with a hand lens rated as X10.

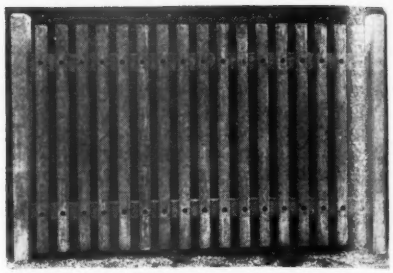
The bulletin contains a list of hardwoods giving the botanical family and species, the common name, and the feature numbers for use with the key. An index and check list is also given. The bulletin is obtainable from H.M.S.O. price 5*s.* net. Code number 47-68-25.

Prestressed concrete fencing. The appearance of timber fencing is very pleasing if it is in good condition, but it is a depressing sight when the rails are sagging, the pales hang at odd angles, and the posts are rotting at the bottom. The introduction of reinforced concrete posts did away with some of the disadvantages, and now we have completely prestressed concrete fencing. In a design used by the Metropolitan Water Board the posts are 8 ft. 9 in. long set 2 ft. 9 in. in the ground, 7½ in. back to front, 4¼ in. wide on the front face and 4¾ in. at the back. Tapered slots pass through the posts to take the top and bottom rails, which are 8 ft. 11½ in. long, 5 in. deep, and 2½ in. and 3 in. wide at the upper and lower faces respectively. The pales are 5 ft. 5 in. long, 2 in. thick, and 3¼ in. wide at the back, tapering slightly towards the front and chamfered on the front edges. Each pale is fixed with galvanised steel nuts and bolts to the rails, which are holed accordingly.

The design of the slots in the post enables corners to be rounded; right-angle corners can be made by using two standard posts, and other angles are obtained by using special splayed rails to fit into the standard posts. The accompanying illustration shows the general appearance of the fencing, which is made by Messrs. Dow-Mac (Products), Ltd., of Tallington, Stamford, Lincolnshire.

Asphalt. Whether or not this material is spelt with a final e it is—in the opinion of the Natural Asphalte Mine-owners and Manufacturing Council—the only material that can form an unbroken plastic homogeneous waterproof membrane for the protection of buildings against the penetration of moisture; an opinion that few will dispute. The general principles of its application are known to all architects, but there may be times when they are a little uncertain about the best thickness, and number of coats, to use in particular positions, and here the booklets published by the Council will be of help. The booklets form a series on the application of mastic asphalt; the first dealt with roofing and the second with damp-proof coursing and tanking. Clear diagrams show correct technique.

Interested persons may obtain these booklets, free, from the Council at 94-98 Petty France, London, S.W.1.



Messrs. Dow-Mac's prestressed concrete fencing

Dry Rot in Wood. The Forest Products Research Laboratory have recently issued the fifth edition of their Forest Products Research Bulletin No. 1, Dry Rot in Wood. This edition has been thoroughly revised, especially in the section dealing with the sterilisation of infected walls. After describing the distinction between damage done by insects and by fungi the bulletin enumerates the various fungi which cause decay of timber in buildings and the conditions necessary for their growth. Dry rot is then dealt with in detail, including its detection and practical treatment and the precautions to be taken in the use of timber in new buildings to prevent outbreaks of the trouble. Very clear illustrations show examples of the appearance of various fungi, and drawings show good and bad constructional details.

Although the bulletin is so commendably explanatory that the reader may feel he knows all about the subject, the truth of the aphorism about a little learning is exemplified by the following paragraph. 'Speaking generally, dry rot fungi are able to grow actively at all the temperatures commonly met with in domestic buildings. Increase of temperature, if it also means increase of ventilation, will dry out a house and so help to prevent decay, but if the timber remains damp it will merely increase the rate of decay. This point should be borne in mind when it is proposed to put additional heating in a building infected with rot; increased ventilation should always be provided at the same time'. Heat alone, then, is not enough to reduce the moisture content of timber below the 20 per cent danger line if the moisture cannot escape. A cloth wrung out in hot water is warm but it is not dry.

The bulletin can be obtained from H.M.S.O., price 2*s.* net. Code No. 47-68-1-52.

New Treatment for dry rot. A note from the D.S.I.R. states that the Forest Products Research Laboratory and the Building Research Station have been carrying out experiments with paints and plasters to find a practical method of preventing dry rot recurring after an original attack has been dealt with, even if spores or strands have been left in brick or stonework, for the fungus cannot be reached inside a wall by heat or insecticide, beyond a limited depth. Zinc oxychloride mixtures have proved to be effective, and are likely to

be particularly useful where a source of damp cannot be dealt with. They can prevent the growth of fungus from an infected wall even if small cracks develop.

The paints and plasters are intended to be used instead of the normal fungicidal solution applied to a wall, but all other measures for dealing with dry rot outbreaks should still be taken.

Earth-wall construction. As a commentary on our preoccupation with the best techniques for using mortars and concrete it is interesting to reflect that the most primitive forms of walling are still being used, such as the pisé and adobe; indeed, the Australian Commonwealth Experimental Building Station consider the subject to be of sufficient importance to justify the publication of a bulletin, which says that the evidence of centuries has proved that earth-wall buildings are adequately strong and lasting. They are dry, sanitary, fire-, rot- and sound-proof. 'With the establishment of recognised techniques and the elimination of the weaknesses which existed in the early pisé and adobe buildings, the methods have increased in popularity in the far-distant areas where manufactured materials are difficult and costly to obtain. With the present acute shortages of building materials, the interest in earth-wall building has intensified in the areas closer to the sources of manufactured materials, and, in fact, in the outlying districts of the capital cities.'

We in this country may think that pisé and adobe constructions are of interest only to our friends 'down under', but our Post-war Buildings Studies No. 18, *The Architectural Use of Building Materials*, mentions them as being traditional methods of earth-walling in areas to which the transport of brick or other materials is difficult, and states that 'The experimental cottages built in 1921 in various forms of chalk pisé, at Amesbury, show some initial cracks, but are on the whole providing today good living conditions.'

If anyone has a theoretical, or practical, interest in earth-walling he cannot do better than study the Commonwealth's very informative bulletin No. 5.

Post-war Building Studies No. 30. The Ministry of Works have now published this Study on *The Lighting of Office Buildings*. It is divided into five parts: (1) the development of office buildings; (2) natural lighting; (3) artificial lighting; (4) improvements to the daylighting of existing buildings, and (5) legislative aspects. Appendices deal with a survey of lighting in offices; a summary of evidence about office lighting; average daylight illumination throughout the year; analysis of the visual task in office work; fluorescent tubular lamps, and an example of improvements to existing offices. The Study is illustrated.

The information given is interesting and detailed, the result of much study and investigation, but the practical application can be much affected by that intrepid person who perches precariously on window sills—the window cleaner. The results of long-period tests show that assuming an initial transmission of 80 per cent, the final transmission of an uncleaned window facing west was about 53 per cent, and facing east 48 per cent.

Fibreglass. Messrs. Fibreglass, Ltd., of Ravenhead, St. Helens, Lancashire, have issued a booklet that might well come under the term catalogia, since it contains much useful information on thermal insulation and sound control and at the same time, quite reasonably, describes the various forms in which fibreglass can be obtained to suit the purpose for which it is to be used. The methods of computing thermal conductivity, resistivity and transmittance values of different materials are clearly explained. Similarly bels, decibels and phons are defined. Clear diagrams show sound and thermal insulation techniques, and tables give data on U values and reduction of impact and airborne sounds.

The booklet, *Fibreglass, thermal insulation and sound control in buildings*, can be obtained from Messrs. Fibreglass free of charge. The London address is 63-65 Piccadilly, W.1.

Domestic Solid Fuel Appliances. The Coal Utilisation Council have now issued their list No. 5—July 1952—prepared in consultation with the Ministry of Fuel and Power; it supersedes list No. 4 of December 1951. The list gives the trade name of the appliance, the name of the manufacturer, and remarks. An index to manufacturers is included. All appliances in the list comply with prescribed standards and are recommended by the C.U.C. as being efficient, and those marked with an asterisk are recommended by the Ministry of Fuel and Power for local authority housing. The list can be obtained from the C.U.C., 3 Upper Belgrave Street, London, S.W.1, price 6*d.*

British Standards recently published

C.P. 131 : 101 (1951). **Flues for domestic appliances burning solid fuel.** Contents: materials, appliances, components; design considerations regarding chimneys in brick, stone-masonry, concrete, precast-concrete units, hollow blocks, and metal and asbestos-cement flues. Fire hazard, damp penetration, condensation. Diagrams of fireplace recess and throat; height of chimneys above roofs in relation to fire hazard; wind pressure and suction zones; connection between appliance and flue; distances of combustible material from flue pipes passing through roof; sound insulation, and damp-proofing. Price 5*s.*, post free.

C.P. 121 : 201 (1951). **Masonry walls ashlared with natural stone or with cast stone.** Contents: recommendations on selection of stone and materials for d.p.c. and mortar; consideration of design in relation to rain penetration, durability, sound insulation, thermal movement, and bonding. Diagrams illustrating methods of construction and position of d.p.cs. Price 6*s.*, post free.

C.P. 121 : 202 (1951). **Masonry-rubble walls.** Contents: definitions, selection of stone, suitable mortars, materials for flashings and weatherings. Design considerations; thermal transmittance, fire resistance, damp-proof courses. Illustrations of various types of walling; diagrams showing positions of damp-proof courses. Price 7*s.* 6*d.*, post free.

B.S. 497 : 1952. **Cast manhole covers, road gully gratings and frames for drainage purposes.** Contents: materials, manufacture and workmanship, dimensions, weights, protective coating, loading test, marking and certification. Fourteen illustrated tables of covers and frames, keyholes, gully gratings and frames, with dimensions. Appendix giving approximate weights. Obtainable from the British Standards Institution, 24 Victoria Street, London, S.W.1, price 5*s.* net.

B.S. 1881 : 1952. **Methods of testing concrete.** Contents: sampling fresh concrete in the field, slump test, compacting factor test, analysis of freshly-mixed concrete, determination of weight per cu. ft., making and curing compression test tubes in the laboratory and in the field, test for compressive strength of moulded cubes, determination of compressive strength using portions of beams broken in flexure, making and testing flexure test specimens, determination of the modulus of elasticity by means of an extensometer or by an electro-dynamic method, drilling and testing cores from concrete, determination of changes in length on drying and wetting. Ten illustrated figures of various testing apparatus. Price 10*s.* net.

B.S. Handbook No. 3, **Addendum No. 1, 1952.** Since Handbook No. 3 was published in January 1950 20 per cent of the British Standards therein summarised have been substantially revised, or modified in important detail, and a number of new standards have been issued, concerning the building and allied industries. Some of the most important building standards are affected, and so this addendum volume has been published to bring the handbook up to date. The new volume contains summaries of 14 new standards issued between 1 January 1950 and 31 August 1952, and new summaries of 30 more that have been extensively revised during the same period. The addendum also includes gummed amendment slips affecting 26 further summaries to which significant detailed changes have been made. Thus all users of the 1950 edition should have this addendum volume.

For the benefit of those who may still be using one of the earlier editions of the handbook, which are now obsolete and should be discarded, copies of both the 1950 edition and of the new addendum may be obtained from the B.S.I. at the special combined price of 31*s.* 6*d.*, compared with the published prices of 37*s.* 6*d.*

Practice Notes

Edited by Charles Woodward [*A*]

MINISTRY OF HOUSING AND LOCAL GOVERNMENT. Building Licensing. Construction of Roads and Sewers for New Private Enterprise Housing. Circular L.R.L. 9/52, dated 16 September 1952, issued to housing authorities in the London Region, states that licences for the construction of roads and sewers for new house building by private enterprise will in future be issued by the local authority and not, as heretofore, by the Ministry of Works. Such licences will be issued by the local authority direct to the applicant, and it will not be necessary to consult the Ministry or the Regional Licensing Officer.

The work should be licensed in one of the following ways: (*a*) if a separate licence is issued for each dwelling house to be erected in the road the amount of each licence should include a proportionate part of the cost of the road and sewers, or (*b*) if a block licence is issued for two or more dwellings in the road then the amount of the licence should include the cost of the road and sewers, or (*c*) if it is desired to lay the road and sewers first and the local authority is satisfied that licences will subsequently be issued for dwelling houses to be erected then the local authority may license the road and sewer work separately from the houses.

The above procedure is limited to road and sewer construction for *new* private enterprise house building. Builders requiring licences to construct or to improve a road serving *existing* houses should continue to apply to the Regional Licensing Officer of the Ministry of Works.

NATIONAL JOINT COUNCIL FOR THE BUILDING INDUSTRY. Re-grading of Districts. The National Joint Council have authorised a re-grading of districts to take effect on and from 6 October 1952. The following is the list of re-gradings:

Yorkshire Region. Hornsea U.D., A3 to A2; Malton U.D., A3 to A2; Norton U.D., A3 to A2; Withernsea U.D., A3 to A2.

North-Western Region. Buxton, A1 to A; Chapel-en-le-Frith, A1 to A; Disley, A1 to A; Hayfield, A1 to A; New Mills, A1 to A; Whaley Bridge, A1 to A; Isle of Anglesey, A3 to A2. (Note: Holyhead and Llangefni, already graded A2, are now merged into the wider graded district.) Mostyn, A3 to A. Bagillt—The separate grading of Bagillt as A3 to be *deleted* and the Flint Grade A district to be described as 'Flint M.B.' (which includes Bagillt). Keswick U.D.C., A2 to A1; Penrith U.D.C. A2 to A1.

Eastern Counties Region. Braintree (radius 2 miles), A2 to A1; Holbrook (radius 1 mile), A1 to A; Leighton Buzzard (radius 2 miles), A2 to A1; Royston (radius 1½ miles), A2 to A1; Tiptree (radius 1½ miles), A2 to A1.

Midland Region. Atherstone R.D. (part Atherstone, Baddesley Ensor, Baxterley, Bentley, Grandon, Merevale, Polesworth), A1 to A; East Retford R.D., A1 to A; Market Harborough U.D., A1 to A; Raunds U.D., A2 to A1; Gainsborough U.D., A1 to A; Solihull U.D. (part—Bentley Heath, Dorridge, Hockley Heath, Knowle, Tidbury Green), A1 to A; Wellington U.D., A1 to A; Malvern U.D., A2 to A1.

South-Western Region. Exeter, A1 to A; Stroud, A2 to A1.

Southern Counties Region. Dorking, A1 to A; Swanage and District (including Wareham), A2 to A1. (Recommended that Swanage and District shall include Wareham.)

Note: Havant—Although previously separately graded, Emsworth and Hayling Island are, in fact, part of Havant and Waterloo U.D.C. The new definition of the graded district is therefore: Havant and Waterloo U.D.C. together with Leigh Park.

The re-grading involves an increase in wages as from 6 October, and in current contracts under the R.I.B.A. Form of Contract the net increase will be an addition to the contract sum.

The grading is as in Table I below.

This re-grading means a rise of ½*d.* per hour, except for Mostyn, which is re-graded A3 to A, a rise of 1½*d.* per hour.

EXPOSED PARTY WALLS. The ESTATES GAZETTE for 27 September 1952 has an interesting paragraph on the legal responsibility for protection against the elements of party walls left exposed by the demolition of adjoining buildings.

In the case giving rise to this question counsel's opinion was taken, which was to the effect that the corporation concerned was under no legal responsibility for carrying out any weatherproofing to the exposed walls because the owner of a property 'has no acquired right to have it permanently protected against the elements by an adjoining property, and he cannot complain of the withdrawal of the protection.'

The JOURNAL OF PLANNING LAW for April 1951 and July 1952 included articles on party walls written by a barrister, and in his opinion there was no liability on the owner of a demolished house to make his part of the party wall weatherproof because there does not appear to be a class of easements to cover protection against wind and weather. It was suggested that the adjoining owner should be given access to do such work to the party wall as he may desire.

SELLING PRICE OF HOUSES. In Circular 64/52 issued by the Ministry of Housing and Local Government, the Minister gave his general consent to the sale of council houses on condition that the sale price of such a house built after 8 May 1945 is to be not less than the *total cost* to the authority of providing the house. This Circular was referred to in the September issue of the JOURNAL.

In granting a building licence for a new house the licensing authority fix a maximum selling price above which the house may not be sold, and such selling price should be the *total cost* to the person for whom the house is built.

There would not appear to be any reason for differentiation between a sale price by a local authority and a sale price by a private owner, and the Minister's condition gives ground for such a suggestion. A previous circular issued by the Ministry said that the selling price of a house built under licence should be the all-in freehold price, and should include cost of building, cost of roads and sewers, restricted land value and development charge. Fees and charges incurred by an owner should be taken into account as being part of the all-in freehold price or *total cost* to the owner of providing the house.

Applications for a licence for a new house should include the *total cost* incurred or to be incurred by the owner, and if such information is given to the local authority the sale price of a council house and a privately owned house would be arrived at on the same basis.

The previous Circular issued by the Ministry is 108/48 (July JOURNAL 1948, p. 419, and a reference in the September JOURNAL 1949, p. 487). Circular 59/52, August JOURNAL 1952, p. 378, states that professional fees should *continue* to be taken into account in fixing the maximum selling price of houses built under licence.

MINISTRY OF WORKS. Building Industry Distributors Scheme to Help Housing. Building Industry Distributors, in discussion with the Ministry of Works, have prepared a mutual aid scheme to help the housing drive. Contractors finding that the lack of certain commodities and fitments is holding up completion of essential work can approach the Regional Officers of the Ministry of Works, who will notify the local panels of B.I.D. members. The latter will pool their resources in an endeavour to supply the article or articles in short supply.

The scheme is not intended to cover any general shortage, which builders and plumbers must deal with through trade

TABLE I

	Craftsmen s. d.	*Labourers* s. d.
Grade "A" Districts	3 4½	2 11 hourly rate
" "A1" "	3 4	2 10½ " "
" "A2" "	3 3½	2 10 " "
" "A3" "	3 3	2 9½ " "

channels as hitherto, but rather to deal with the shortage which will delay occupation of an otherwise completed building. (M.O.W./109/52. P.I.295. 18 September 1952.)

THE TOWN DEVELOPMENT ACT 1952. This Act came into force on 1 August last, and applies to England and Wales. It enables local authorities to sell or grant a lease for more than 99 years of land acquired for planned redevelopment, but with the consent of the Minister of Housing and Local Government. The limited power given to the Minister in the Planning Act of 1944 is removed, and it is now a matter for his discretion as to whether he will consent to the sale of planning land or to its being leased for more than 99 years.

The Act also provides for 'town development', i.e. the provision of housing accommodation in a country district so as to relieve congestion or over-population elsewhere. The town development may include accommodation for industry, public gas, water and electric services, and places for public worship, recreation and amenity, and so perhaps create a new town. Exchequer grants are payable to the council in respect of expenses in carrying out town development on a substantial scale so as to relieve congestion. Any town development under this Act will still need planning permission under the 1947 Planning Act.

Co-operation between local authorities in order to solve problems of congestion and over-population appears to be one of the objects of the Act, which provides for participation in a town development scheme by an agreement between the authorities concerned, with the approval of the Minister. In such cases it may well be that, by the agreement, a county council could provide architectural services for a group of districts which had not the necessary technical staff.

Book Reviews

Kachelofen und Kamin, by *Hans Grohmann.* 11¾ in. [150] (152) pp. incl. pls. text illus. Munich: Callwey. [1951.] (DM27.–)

The kachelofen, the glazed-tile stove, is the traditional means of heating in German houses and an effective means, too. It is also as a rule a decorative piece of furniture, and sometimes a work of art. This book provides information on the adaptation of the kachelofen to modern heating systems, and photographs of about eighty examples in present-day houses. In a few cases plans and sections are also shown. There are some notes as well on the design of open fireplaces and a selection of photographs, and occasionally plans, of recent work in this field. Most of the fireplaces are German, but a few are Italian, and there are a couple by Neutra. They are perhaps less successful as architecture than the kachelofen, but generally better to look at than those normally built in England. Many architects called upon to design an open fireplace could study this book with advantage, and so could the manufacturers of some standard products that regularly insult the public taste at the Ideal Home and similar exhibitions. J. C. P.

Towns and Buildings described in drawings and words, by *Steen Eiler Rasmussen.* English ed. 9½ in. (iv) + iv + 203 pp. text illus. Liverpool: U.P. 1951. £1 1*s*.

This is a most exciting book of sketches and brief descriptions. When one recalls those ponderous tomes imposed on students and the public in the 19th century one cannot be grateful enough to an author who knows what is needed. Those who describe everything say nothing worth remembering. Even worse are those who illustrate everything and blur the vision of all and sundry. A writer who deals with the spirit of cities has the duty of selecting what matters and throwing light on everything worth illuminating. For this reason Mr. Rasmussen's book deserves fullest praise. It is the work of an artist who is both poet and logician. His views of architecture from the earliest times to the present day are so superior that one arrives at a comprehensive view of the whole while studying the parts. What an object lesson for teachers in public schools—to say nothing of those centres where the study of architecture as an art is often passed over.

The author has the distinction of belonging to a nation renowned for the attitude of its writers and artists to the conduct of the arts. He has glimpsed the form of cities, past and present, and has developed a great love for them. This he has contrived to pass on to others: this is why his book will be popular for many years. Beginning with Peking, which he describes as a temple, he proves that the whole city blends with the natural surroundings by reason of its symmetry. He then deals with the colonial cities of ancient Greece and the garrison towns of the Romans, including Augusta Taurinorum (Turin) and Colonia Agrippinensis (Cologne). He proceeds to show how centuries of migrations and wars determined the dominating positions of castles. The ideal cities of the Renaissance, planned by Martini and Scamozzi, may not have been realised, but they certainly influenced architects in the 16th and 17th centuries. Then follows a dissertation on the Grand Perspective amplified by sketches after Claude Lorrain and Albrecht Dürer. And so the student is introduced to Rome, the Eternal City. From Rome to the cities of Europe in the second half of the 17th century is an easy transition, made most attractive by reference to Paris of the musketeers. The student will notice sketches of musketeers after Jacques Callot, and views of Paris after Israel Silvestre, as well as illustrations from Merian's and Turgot's plans.

Very little escapes the selective pen of the author. The Italian villa of the Baroque is described, together with the closed block of the great palazzi of Rome. There are references to the grand ideals made popular by Palladio, to Raphael's paintings and to the fantasies of Paolo Veronese. As you turn the pages you see the Dutch contribution evolving from the Italian, also the royal castle at Stockholm emulating the manner of Bernini in the 18th century. The Dutch system of town growths is shown evolving in organic fashion around dykes and canals. Seafaring, agriculture and home life provided the subjects for Dutch artistry when Holland gained independence. In time the city culture of Holland made itself felt in England, Denmark and Sweden.

Mr. Rasmussen has an especial affection for London and Paris, which he expresses in his *Tale of Two Cities*—perhaps the most entertaining of his many descriptions. In Danish Intermezzo we are instructed in the way of the layout of Versailles, because this became a model for court capitals all over Europe. This is a chapter which will appeal to English taste as well as that on neo-Classicism, the banlieues and the boulevards of Paris—special features of continental city development which are as distinct from the English viewpoint as land and speculation are on the other side of the Channel.

Finally, there is a very apposite chapter on contemporary developments, particularly Le Corbusier's ideal community at Marseilles. Mr. Rasmussen writes: 'Everything has been worked out for them, artistically as well as technically, except how children are to develop in such surroundings.' Mr. Rasmussen has captured the spirit of cities; he has also shown authors of books on architecture how to deal with complex historical matter. What is even more appropriate, he suggests to teachers that the elements of things often escape notice. He should be a proud man, for he has produced a work which will awaken interest in the trend of social culture. A. E. RICHARDSON R.A. *[F]*.

Dublin 1660-1860, by *Maurice Craig.* 9¾ in. xvi—362 pp.—lxxx pls.—folding plan. text illus. Cresset Press. 1952. £2 2*s*.

Mr. Craig's book, subtitled *A Social and Architectural History*, ' was conceived,' he writes, 'more as a "portrait" than as a "history".' The reader who does not know Dublin may be assured that the likeness is a distinguished one: the Dubliner will value this extramural view of the city as a young capital—Mr. Craig is not a native of the Pale. The text—like an architect's life—is about one-third social history and fable, one-third architectural politics and gossip, one-third architecture. Much of it is skilful editing of the authorities—diarists, archæologists, historians; Mr. Craig finds, so to speak, his Whaley in the belly of Jonah Barrington, his estate history in examinations of Leask: his assessment of the city's buildings is, perhaps, the more stimulating because he is not an architect.

Writing in praise of Fitzwilliam Street and its projections, for instance, he says: 'The vista is closed at one end by the mountains, and at the other, since 1934,

by the 252 ft. gasholder on Sir John Rogerson's Quay.' For an architect the terminals, nearer and lower, are the Corporation's lavatory and lock-up shop below the mountain contour, the National Maternity Hospital below the gasometer. The hospital was designed, outside the island, in the nineteen-thirties. Its Merrion Square front is a sort of diagram setting out the principal architectural details not found in Ireland, and it is not drawn to scale. Or is the hysterical character of the fenestration symbolical?

Mr. Craig writes splendidly of great houses and public buildings, but Dublin is more streets than buildings, more massing than mouldings. St. Stephen's Church, for instance, recites its Lesson only in the context of Mount Street, upper; Charlemont House would be illegible or misleading in London's gay Mayfair. It is the adjoining owners' plain but well-bred brick faces that give the better houses their *cachet*.

The typical Dublin street façade is a flat-coped brick wall broken only by square window-opes; door and fanlight are special; there is a suggestion of wrought iron sometimes at first floor window level; above, only the dentilled prows of chimney stacks beached in irregular majesty among the undulating slated roofs. The patent reveal, mentioned by Mr. Craig, painted in with the white glazing bars, is subtly related to the texture, colour and scale of the brickwork. But how did such splendour blaze out of so idiotically simple a specification? This was simply the speculative building of a tough minority. The answer is visual, but a mystery—the mystery of architecture, in which those architects were adept.

For them it lay chiefly in fenestration: in Dublin the magic was heightened by stripping the front down to the brickwork. Two hundred years later the spirit of romanticism had taken form in thousands of 'different' and incurable ædicules, but the speculators of the 18th century put smug trust in geometry, and in Dublin, certainly, their only mysticism was the Platonic section.

Mr. Craig says of Aldborough House: '. . . it is hard to believe that Chambers would have designed such an unhappily elongated *piano nobile*, or such an ungainly porch.' Anyone who has measured it and knows that block and wing heights and lengths, ope heights, widths and spacings, and porch columniation, are all intervals in a dimensional scale, knows, too, that if the result is ugly, *tant pis pour le module*, but the elongation is not so much romantic hit-and-miss as misjudged harmony.

Mr. Craig's dismissal of such fragments of early 19th century stucco and wrought iron gaiety as are found in Morehampton Road, Harcourt Terrace and Gloucester Street as 'cold, passionless, grandiose' is, perhaps, an intellectual judgment—that idiom is the only charm of Longford Terrace, Monkstown, parts of Rathgar and the 'good' side of Pembroke Road. It is difficult, too, for this reviewer to see with him 'a scholarly and delightful building' in the busy Byzantine bastardy of the University church, or on the other hand, to identify either the 'unresolved duality' in the Greek revival front of St. Andrew's or the 'uneasy wall spaces' in its majestic interior.

The book is so good, so well indexed and documented that it deserves better proof-reading. The sentence on p. 283 which seems to imply that 'statuary' means 'statues', should be tidied up for the next edition, as should also the implication on p. 284 of a Government 'in bad repair', the ghost-word 'rere', *passim*, and the use of 'none' with 'are' on p. 103. The change of number in the second paragraph of the preface is surely not intended any more than the suggestion of a pre-1674 Union Jack on p. 52?

The author's own drawings and perspectives are excellent; the photographs vary in quality—the terrifying Brazilian character of the Kingsbridge elevation, for instance, can be captured only on sunny days. Mr. Craig has a pretty wit, of which the 'private' reference to a saint on p. 57 and the hidden unionist jest on p. 334 are good examples.

NIALL MONTGOMERY [4]

Hill's Complete Law of Housing. 2nd suppt. to the 4th ed. By *D. P. Kerrigan* and *R. G. C. Davison*. 9¾ in. xxiv+264 pp. Lond.: Butterworth. 1951. £1 10*s*.

The main contents of this book are a 'noter-up' drawing attention to repeals and amendments in the sections of various Acts, and full information on additional Acts, subordinate legislation and circulars, passed and published since the first supplement to the fourth edition appeared in 1948.

The Associateship and the Examination in Professional Practice and Practical Experience

The regulations for the examinations qualifying for the Associateship and for registration under the Architects (Registration) Acts 1931 and 1938 were amended in 1949 as a result of strong feeling, not only in the Council and on the Board of Architectural Education, but in the profession generally, that the qualifications of the young architect should be raised by requiring a period of practical experience before the granting of qualified status.

It was considered desirable that the new regulations should come into force as soon as possible, but in order to avoid inconvenience to those about to take the Final qualifying examination the date fixed for the purpose of Associateship R.I.B.A. was 1 January 1951. A complication was introduced by the delay necessary in obtaining legal sanction to bring the regulations into force for registration under the Architects (Registration) Acts, the date fixed for this purpose being 18 September 1951.

It was inevitable that the operation of the new regulations would reveal difficulties and anomalies. It was also perhaps inevitable that students who had hitherto anticipated the granting of qualified status immediately on passing the Final Examination would, in some cases, regard the delay due to the requirement of practical experience as a hardship or injustice, regardless of the prime intention of the new regulation, which was to raise the standard of qualification.

These difficulties have been dealt with as they arose, and their gravity assessed in relation to the intention of the new regulation. The whole position has been the subject of careful investigation, which has unavoidably taken considerable time.

As already announced, the Board decided in July 1952 that candidates who had started their architectural training before 1 November 1949 should be allowed to take the Examination in Professional Practice and Practical Experience next following their passing the Final, Special Final or Final exempting examinations, provided that some evidence of practical experience could be shown. Students were then advised that while a minimum period of 12 months' post-graduate practical experience was normally essential, in these particular cases a period of at least two months' post-graduate or alternatively four months' earlier experience was desirable.

In accordance with the decision of the Admission Committee of the A.R.C.U.K., candidates who passed the greater part of their Recognised School examinations before 18 September 1951, leaving not more than two subjects to be taken, were allowed to qualify for registration if they finally completed their examination, including the subject of Professional Practice, before 31 July 1952. In September 1952 it was announced that such candidates would also be eligible to apply for election as Associates.

It has been decided that the following categories shall also be eligible to apply for election to the Associateship:—

1. Any candidate who qualified by examination for registration before 18 September 1951, the date on which the Privy Council amended the A.R.C.U.K. Regulations.

2. Any registered architect who has passed or shall pass the Final or Special Final Examination. (Such candidate will not be required to take the section of the examination covering Professional Practice and Practical Experience.)

3. Any candidate who passed in the subject of Professional Practice in the Final or Special Final Examination and has passed or subsequently passes the remaining subjects of the syllabus which was in force at the time when he first sat for such examination.

The Council have considered the question of ante-dating the membership of any candidate so elected and have decided that membership shall not be ante-dated.

Membership Lists

ELECTION: 7 OCTOBER 1952

The following candidates for membership were elected on 7 October 1952:

AS HON. FELLOWS (3)

Alexander of Tunis: Field Marshal The Right Hon. Earl, K.G., G.C.B., C.C.M.G., C.S.I., D.S.O., M.C.
De L'Isle and Dudley: The Right Hon. Lord, V.C., Tonbridge.
Salisbury: The Most Hon. The Marquess of, K.G., Hatfield.

AS FELLOWS (10)

Clarke: David [*A* 1938], Eastbourne.
Crowther: John Henry [*A* 1922], Truro.
Glover: Archibald William [*A* 1939], Wakefield.
Hastings: Alfred Edward Joseph [*A* 1944].
Page: Reginald John [*A* 1933], Colchester.
Taylor: Douglas Seth, M.A. (Cantab.) [*A* 1932].

and the following Licentiate who has passed the qualifying Examination:

Newman: William Stobart, Umtali, Southern Rhodesia.

and the following Licentiates who are qualified under Section IV, Clause 4 (*c*) (ii) of the Supplemental Charter of 1925:

Collard: Frank Allen, Liverpool.
Green: John Wilfrid, Durham.
Pettett: Herbert Charles, Epsom.

AS ASSOCIATES (55)

Aitken: John Blyth, D.A. (Edin.), Dunfermline.
Allison: David Charles, B.Arch. (Auck. N.Z.), Christchurch, New Zealand.
Ash: Harold Norman, A.A.Dipl., Hemel Hempstead.
Balston: Roy Whitehorn, Dorchester.
Blanc: Alan John, Dipl.Arch. (Northern Polytechnic).
Booth: Jack Derek, Dip.Arch. (Manchester), Preston.
Boreham: Leonard, Durbanville, Cape, S. Africa.
Browning: Peter Bernard Albrecht, Nairobi, Kenya.
Brydon: George Fraser, D.A. (Edin.), Belfast.
Chafkin: Lionel, B.Arch. (Rand), Benoni, Transvaal, S. Africa.
Charlesworth: Anne Elizabeth Soley (Miss).
Coles: Kenneth Dawson.
Daniel: Hugh Llewelyn, A.A.Dipl., Ilford.
Dickie: William Henry, D.A. (Edin.), Dumfries.
Edwards: Kenneth Gordon, Liverpool.
Facetti: Hon. Mary Frances (Mrs.).
Francis: Robert Arthur Lillywhite, B.Arch. (Melbourne), Melbourne, Australia.
Fraser: William Patrick Austin, B.Arch. (C.T.), Nairobi, Kenya.
Gerard: Allen Willie, Gordon, New South Wales, Australia.
Griffiths: Arthur James, Sydney, Australia.
Hatch: Colin, Blackpool.
Hay: Jennifer Mary (Mrs.), Colombo, Ceylon.
Hotson: Hugh Andrew, B.Arch. (C.T.), Salisbury, S. Rhodesia.
Hughes: Patrick Kevin, Dipl.Arch. (Northern Polytechnic), Wickford.
Jackson: George William, Salisbury.
Jeffery: Leonard, Kampala, Uganda.
Karol: Louis, B.Arch. (C.T.), Cape Town, S. Africa.
Karpinski: Czeslaw-Jerzy, D.A. (Glas.), Kaduna, Nigeria.
Kenny: George Geoffrey, B.Arch. (Auck. N.Z.), Auckland, New Zealand.
Kirby: Clifford Ramsey, Darlington.
Lloyd: Stanley, Victoria, B.C., Canada.
Lord: Frank Kenneth, Preston.
McCullough: Graham Hugh, Nairobi, Kenya.
Mayo: Joseph Leslie, Dip.Arch. (The Polytechnic).
Meddings: Thomas Edward, Dip.Arch. (The Polytechnic).
Middlebrook: Daniel Jeffery, Lincoln.
Miller: Ernest James, M.C.
Montgomery: Neil Thomas Edward, B.Arch. (Melbourne), Melbourne, Australia.
Oliver: Edric Francis, Dip.Arch. (The Polytechnic).
Orpen: John Joseph Millerd, B.Arch. (C.T.), East London, S. Africa.
Pinfold: William Gibb, Dunedin, New Zealand.
Pitt: Aubrey Arthur, B.Arch. (Rand), Johannesburg, S. Africa.
Pottie: Thomas Herbert, Biggar.
Rokseth: Gabrielle Priscilla (Mrs.), Oslo, Norway.
Ross: Douglas Herbert, Croydon.
Rossen: Ernest, B.Arch. (C.T.), Salisbury, S. Rhodesia.
Saunders: Frank Henry, Sandy.
Shiber: Sami Basil, M.C.D., B.Arch. (L'pool), Stevenage.
Sperry: Ronald George, Harlow.
Warren: Frederick Miles, Dip.Arch. (Auck. N.Z.), Christchurch, New Zealand.
Whiston: Gerald James, D.A. (Edin.), Balerno.
Wills: Oliver James Goodacre, B.Arch. (Rand), Bloemfontein, O.F.S., S. Africa.
Wilson: Donald Alexander, B.Arch. (Auck. N.Z.), Wanganui, New Zealand.
Wilson: Harry, Manchester.
Wright: Alan John, Ilford.

AS LICENTIATES (5)

Carter: Edwin John.
Helbing: Vernon.
Jarratt: Thomas.
Mackintosh: Douglas Malcolm Napier.
Wilson: Allan Barrowman, Kilmarnock.

ELECTION: 3 FEBRUARY 1953

An election of candidates for membership will take place on 3 February 1953. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary, R.I.B.A., not later than Saturday 17 January 1953.

The names following the applicant's address are those of his proposers.

AS FELLOWS (3)

Bilimoria: Jehangir Phiroze J., Dipl.Arch. (U.C.L.) [*A* 1939], Messrs. Bilimoria and Albless, Laxmi Building, Ballard Road, Ballard Estate, Fort, Bombay, 1, India; Sohrab Mansions, Churchgate Reclamation, Fort, Bombay. H. N. Dallas, S. H. Parelkar, Prof. S. S. Reuben.

Prior: Alfred Jefferies, Dipl.Arch. (U.C.L.) [*A* 1936], 27 Henry Street, Port of Spain, Trinidad, B.W.I. R. F. Reekie, G. S. Bridgman, A. S. Gray.

Wiggs: Henry Ross, B.Sc. (Mass. Inst. Tech.), A.R.C.A. [*A* 1923], 1411 Crescent Street, Montreal 25, Quebec, Canada; 1509 Sherbrooke Street West, Montreal 25. H. L. Fetherstonhaugh, J. R. Smith, G. Mc.L. Pitts.

AS ASSOCIATES (32)

Biccard: John Louis, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), Arch. Dept., Anglo American Corporation of South Africa Ltd., P.O. Box 4587, Johannesburg, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Cameron-Smith: Hamish Ninian (Passed a qualifying Exam. approved by the I.S.A.A.), Skye Sweetwaters, Pietermaritzburg, Natal, S. Africa. G. H. Crickmay and applying for nomination by the Council under Bye-law 3 (*d*).

Campbell: George Alan, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), Arch. Dept., Anglo American Corporation of South Africa Ltd., 45 Main Street, Johannesburg, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Corson: John Cameron, Dip.Arch. (Auck.N.Z.) (Passed a qualifying Exam. approved by the N.Z.I.A.), c/o Almadale Guest House, Fitzherbert Street, Gisborne, New Zealand. Prof. A. C. Light, Prof. C. R. Knight, H. L. Massey.

Cran: James Gordon McLeod, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), 41 Ridge Road, Avondale, Salisbury, S. Rhodesia. Applying for nomination by the Council under Bye-law 3 (*d*).

Davidson: Eoin Murray, Dip.Arch. (Auck.N.Z.) (Passed a qualifying Exam. approved by the N.Z.I.A.), 25 Embo Street, Corstorphine, Dunedin, S.W.1, New Zealand. J. H. White and the President and Hon. Secretary of the N.Z.I.A. under Bye-law 3 (*a*).

Elliott: Neil Jerrold, B.Arch. (Melbourne) (Passed a qualifying Exam. approved by the R.A.I.A.), 31 Fenton Street, Ascot Vale, Melbourne, Australia. Prof. B. B. Lewis, Mrs. Hilary Lewis, R. S. Demaine.

Evans: George Ashton, D.F.C., B.Arch. (C.T.) (Passed a qualifying Exam. approved by the I.S.A.A.), Arch. Dept., Anglo American Corporation of South Africa Ltd., P.O. Box 4587, Johannesburg, S. Africa. Prof. L. W. T. White, O. Pryce Lewis, and applying for nomination by the Council under Bye-law 3 (*d*).

Fairbairn: Norman David Nigel, B.Arch. (C.T.) (Passed a qualifying Exam. approved by the I.S.A.A.), P.O. Box 2470, Salisbury, S. Rhodesia. Prof. L. W. T. White, O. Pryce Lewis, and applying for nomination by the Council under Bye-law 3 (*d*).

Fisher: John Albert, A.S.T.C. (Arch.) (Passed a qualifying Exam. approved by the R.A.I.A.), Glendowan, Explorers Road, Glenbrook, N.S.W., Australia. W. R. Laurie, J. C. Fowell, W. R. Richardson.

George: Francis, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), 84 West Meath Road, Parkview, Johannesburg, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Glengarry: Angus Bruce, Dip.Arch. (Auck.N.Z.) (Passed a qualifying Exam. approved by the N.Z.I.A.), 1 Townley's Building, Peel Street, Gisborne, New Zealand. Prof. A. C. Light, Prof. C. R. Knight, H. L. Massey.

Halliday: (Miss) Janet Elizabeth, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), 123 Victoria Road, Bellevue Hill, Sydney, N.S.W., Australia. J. D. Moore, Prof. H. I. Ashworth, D. K. Turner.

Horsley: (Miss) Mary, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), Gundillawah, Tumblong, N.S.W., Australia. Prof. H. I. Ashworth, E. L. Thompson, Prof. Denis Winston.

Johnston: Antony Miles, D.A. (Edin.) (Edinburgh Coll. of Art: Sch. of Arch.), c/o Messrs. Fetherstonhaugh, Durnford, Bolton and Chadwick, 901 Victoria Square, Montreal, P.Q., Canada. J. F. Matthew, J. R. McKay, Leslie Grahame-Thomson.

Kaplan: Benzion, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), 36 Kerk Street, Bethlehem, O.F.S., S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Keen: Warwick Arthur, Dip.Arch. (Auck.N.Z.) (Passed a qualifying Exam. approved by the N.Z.I.A.), 30 Gonville Avenue, Wanganui, New Zealand. Prof. A. C. Light and the President and Hon. Secretary of the N.Z.I.A. under Bye-law 3 (*a*).

Ley: John Patrick, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), 45 Carlotta Road, Double Bay, N.S.W., Australia. Prof. H. I. Ashworth, E. L. Thompson, G. L. Moline.

Lumsdaine: Geoffrey Lawrence, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), 'Cranes', Halesmith Road, Mona Vale, N.S.W., Australia. W. R. Richardson, Prof. H. I. Ashworth, E. L. Thompson.

Marquis: Geoffrey Frederic, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), c o Australia and New Zealand Bank Ltd., Martin Place, Sydney, N.S.W., Australia. Prof. H. I. Ashworth, J. L. S. Mansfield, J. C. Fowell.

Neighbour: Keith (Passed a qualifying Exam. approved by the R.A.I.A.), 55 Barton Terrace, North Adelaide, South Australia. L. Laybourne-Smith, P. R. Claridge, D. W. Berry.

Palmer: Sidney Charles, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), 3 Warenda Street, Bowral, N.S.W., Australia. J. C. Fowell, J. L. S. Mansfield, Prof. H. I. Ashworth.

Parkes: John Gregory, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), 84 Birriga Road, Bellevue Hill, Sydney, N.S.W., Australia. Prof. H. I. Ashworth, E. L. Thompson, Prof. Denis Winston.

Philpot: Arthur Alfred (Passed a qualifying Exam. approved by the R.A.I.A.), 37 Northumberland Street, Tusmore, South Australia. J. D. Cheesman, D. W. Berry, W. J. M. Sedgley.

Sive: Ivan Benjamin, B.Arch. (C.T.) (Passed a qualifying Exam. approved by the I.S.A.A.), 123 Central House, Central Street, Pretoria, S. Africa. Prof. L. W. T. White, O. Pryce Lewis, Prof. A. L. Meiring.

Smit: Andrew Stuart, B.Arch. (C.T.) (Passed a qualifying Exam. approved by the I.S.A.A.), P.O. Box 1049, Dar es Salaam, Tanganyika, East Africa. Prof. L. W. T. White, O. Pryce Lewis, C. M. Boys-Hinderer.

Twibill: Geoffrey Kirkham, B.Arch. (Sydney) (Passed a qualifying Exam. approved by the R.A.I.A.), 34 Burns Road, Wahroonga, N.S.W., Australia. Prof. H. I. Ashworth, E. L. Thompson, Prof. A. S. Hook.

Victor: Stanley, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), 5 Mildura Street, Kensington, Johannesburg, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Ward: Norman Walter (Passed a qualifying Exam. approved by the I.S.A.A.), 84 St. Andrews Drive, Durban North, Natal, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Watson: Thomas Nicolson, Dip.Arch. (Abdn.) (Aberdeen Sch. of Arch.: Robert Gordon's Tech. Coll.), c o Messrs. Cobb, Archer and Scammell, P.O. Box 58, Nairobi, Kenya, East Africa. J. A. O. Allan, J. A. Allan, D. J. A. Ross.

Whitaker: Edwin James, Dip.Arch. (Perth, W.A.) (Passed a qualifying Exam. approved by the R.A.I.A.), 29 Johnston Street, Cottesloe, Western Australia. A. J. Hobbs and applying for nomination by the Council under Bye-law 3 (*d*).

Young: Anthony Campbell, B.Arch. (Rand) (Passed a qualifying Exam. approved by the I.S.A.A.), Arch. Dept., Anglo American Corporation of South Africa Ltd., P.O. Box 4587, Johannesburg, S. Africa. Applying for nomination by the Council under Bye-law 3 (*d*).

Obituaries

Walter James Baker [*L*] died on 17 May. He was 62 years of age.

Mr. Baker was articled to a Birmingham firm of architects, and attended the Birmingham School of Art. After qualifying he took a post with Cadbury Brothers Ltd., and spent two years in Africa for them. During the first world war he served with the Artists' Rifles, then returned to Birmingham, to another firm of architects. Later on he started his own practice in Crutched Friars, London, E.C.3. From about 1932 onwards Mr. Baker was in the Architect's Department of the Middlesex County Council, specialising first in work on hospitals, subsequently on schools. In the course of his private practice Mr. Baker built a number of the smaller type of house in Birmingham and Essex.

John Haslam Wylde [*A*], died on 25 May, aged 44.

Mr. Wylde studied architecture at Victoria University, Manchester, and was then with Messrs. Thorpe and Collier, Deansgate, Manchester. In 1931 he entered the Air Ministry and became Architect Grade I in 1939. After five years in the Middle East and three years in Ceylon he joined the Railway Department of the Queensland Government, where from 1949 to 1952 he was Senior Architect.

Richard Philip Royds Brocklebank [*A*], died on 23 December 1951, after much ill health. He was aged 50.

Mr. Brocklebank came to the profession late in life, being elected an Associate in 1938 and not starting in personal practice until 1942. He practised for a period in Trowbridge, Wiltshire, where he was in partnership with Mr. T. W. Snailum [*F*] and Mr. F. R. Huggins [*A*], under the name of Pictor and Snailum. Mr. Snailum, Mr. Huggins and Mr. Le Fevre [*A*] now carry on the practice under those names at 18 Brock Street, Bath. Mr. Brocklebank was diocesan surveyor to the Archdeaconry of Wiltshire.

Philip Burgoyne Hudson [*F*], past President and silver medallist of the Royal Victorian Institute of Architects, died on 22 December 1951, aged 64.

Mr. Hudson studied architecture at the University of Melbourne, and after serving his articles with Mr. D'Ebro practised throughout his career in that city. He started in personal practice in 1910, interrupting it by three and a half years' service in the first world war. Mr. Hudson specialised in schools, of which he built a number, including the Geelong Grammar School. He designed and erected the shrine of remembrance at Melbourne, and was also responsible for Union House, Melbourne University, for the Commercial Union Building, Collins Street, Melbourne, and for several large factories.

At the time of his death he was a partner in the firm of Philip B. Hudson, Roy K. Stevenson and Partners, and the practice continues under that title.

Herbert Story [*Retd. A*] died on 31 March in Edmonton, Alberta, where he had lived for many years. He was 87 years old.

Mr. Story served his articles with a firm of architects in Carlisle, and from 1890 to 1910 was in partnership with Mr. Hulme in Birkenhead and Liverpool. He went to Canada in 1912.

In Edmonton he was responsible for the building of a number of schools, and was also always much interested in All Saints Anglican Cathedral—which is still only partially completed. He gave his professional services in a voluntary capacity to its designing, building and maintenance.

William John Walter Westlake [*L*] died on 26 June, aged 71.

Mr. Westlake, who was educated at Plymouth Grammar School, was articled to the Surveyor of Plymouth. He subsequently had experience with various local authorities, including Carshalton, Ramsgate, Manchester and Birmingham, and in due course became Borough Engineer and Surveyor for Brentford, Middlesex, until Brentford was amalgamated with Chiswick.

Mr. Westlake then formed a business of estate agents and surveyors in partnership with Mr. Charles Turner, in Acton, W.3. Mr. Westlake carried on for some years after the retirement of his partner, but himself retired three years ago.

During the war Mr. Westlake was a regional technical adviser to the War Damage Commission. During VE year he was Mayor of Richmond. He served on Richmond Council for eight years, and at the time of his death was a member both of Worthing Town Council and Sussex County Council.

Robert Claud Gordon Ogilby [*A*], died in Melbourne on 3 July 1951, aged 66.

Mr. Ogilby studied architecture at Melbourne Technical College and served his articles with Mr. H. J. Permervan in Melbourne. While at the College he was awarded the prize of the Royal Victorian Institute of Architects as the most successful student in architecture and building construction.

Mr. Ogilby practised throughout his life in Melbourne, with the exception of a short period in China. From 1925 to his retirement in 1950 he was an officer of the Department of Public Works, State of Victoria.

John Garrett Bennett [*F*], died on 2 June, aged 62.

After serving his articles with Mr. Charles Flint, of the Quadrant, Buxton, Derbyshire, Mr. Bennett took up official employment, and remained in it throughout his career. He was successively with Sheffield and Swansea Municipal Corporations and Essex County Council, and finally became Borough Architect of Gravesend. He also did valuation work for the Central Land Board and War Damage Commission. He was an honorary member of the City and Borough Architects Association. During the first world war Mr. Bennett served with the R.E.s in Gallipoli and France.

The architectural works for which he was responsible included three pre-war housing estates—King's Farm, Northcourt and Westcourt; a number of schools; a new police station and fire station and a swimming pool, besides the usual alterations, additions and maintenance work.

Notes and Notices

NOTICES

Inaugural General Meeting, Tuesday 4 November 1952 at 6 p.m.

The Inaugural General Meeting of the Session 1952-53 will be held on Tuesday 4 November 1952 at 6 p.m. for the following purposes:

To read the Minutes of the Seventh General Meeting of the Session 1951-52 held on 17 June 1952.

Mr. Howard Robertson, M.C., A.R.A., S.A.D.G., President, to deliver his inaugural Address.

To unveil the portrait of Mr. A. Graham Henderson, A.R.S.A., Past President, by Mr. W. O. Hutchison, P.R.S.A., R.P.

To present the Distinction in Town Planning Diploma to Mr. William Crabtree [*F*].

(Light refreshments will be provided before the meeting.)

Second General Meeting, Wednesday 12 November 1952 at 6 p.m.

The Second General Meeting of the Session 1952-53 will be held on Wednesday 12 November 1952 at 6 p.m. for the following purposes:

To read the Minutes of the Inaugural General Meeting held on 4 November 1952.

To present the Royal Gold Medal 1952 to Mr. G. Grey Wornum [*F*].

It will be remembered that owing to insufficient improvement in Mr. Wornum's health it was found necessary to postpone this meeting from 1 April and 16 June.

(Light refreshments will be provided before the meeting.)

The Formal Admission of New Members at General Meetings

It may be useful to describe the procedure for the formal admission of new members at General Meetings. New members will be asked to notify the Secretary R.I.B.A. beforehand of the date of the General Meeting at which they desire to be introduced and a printed postcard will be sent to each newly elected member for this purpose. On arrival at the R.I.B.A. new members must notify the office of their presence and will then take their places in the seats specially numbered and reserved for their use. On being asked to present themselves for formal admission, the new members will file out in turn into the left-hand aisle and after shaking hands with the Chairman will return to their seats by way of the centre aisle.

Formal admission will take place at all the Ordinary General Meetings with the exception of the following:

4 November 1952: Inaugural General Meeting.
12 November 1952: Presentation of Royal Gold Medal.
3 February 1953: Presentation of Prizes.
31 March 1953: Presentation of Royal Gold Medal.

Associates and the Fellowship

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the next available election they should send the necessary nomination forms to the Secretary, R.I.B.A., as soon as possible.

Kalendar 1952-53—Corrections

As was anticipated, the complete resetting of the Kalendar resulted in a number of mistakes which have now been put right in the record copy. Members concerned have asked for the following corrections to be published:—

Page

44 Alcock: Edwin. Mr. Alcock is a Licentiate and the letter in the left-hand column should be L.
47 Allsop: C. J. should read **Allsopp.**
70 Benroy: W. G. should read **Benoy.**
95 Burbridge: R. F. should read **Burbidge.**
116 Clist: Hubert. The name of the firm is Godwin, **Clist** and Greenway.
140 Davis: Gerald. The address should read 3/20, Pembridge Square, W.2.
166 Fielden: B. M. should read **Feilden.**
174 Foster: John, A.R.I.C.S., A.M.T.P.I. The address should read, Deputy Planning Officer, The Peak National Park Planning Board, Bath Street, Bakewell, Derbyshire. Foster: John Peter, M.A. (Cantab.). The address should read 'Harcourt', Hemingford Grey, Hunts. (St. Ives 2200).
220 Hick: Allanson. The telephone number is Hull 35603.
222 Highet: G. I. C. Mr. Highet is a Fellow and the letter in the left-hand column should be F.
364 Roberts: Alum should read **Roberts: Alun.**
383 Seeds: John. The word 'West' should *not* appear before Belfast.
446 Warren: G. P. The address is 10 Hollin Gardens.
602 Williams: R. S. appears under Licentiates in Berkshire. Mr. Williams is an Associate and should appear on page 601.
654 Hone: W. in the list of Associates in Midlothian should read **Home.**

BOARD OF ARCHITECTURAL EDUCATION

R.I.B.A. Maintenance Scholarships in Architecture

The following Maintenance Scholarships have been awarded for the year 1952-1953:—

An R.I.B.A. 4th and 5th Year Maintenance Scholarship of £60 per annum to Mr. J. A. Hughes of Abersoch, Caerns.

A Howe Green 4th and 5th Year Maintenance Scholarship of £40 per annum to Mr. G. C. Freer of Reading.

The Maintenance Scholarships previously awarded to the following candidates have been renewed:—

Mr. A. G. Diprose (Architectural Association—Ralph Knott Memorial Maintenance Scholarship of £45 per annum).

Mr. Geoffrey Hill (Leeds School of Architecture—Hartley Hogarth Maintenance Scholarship of £21 per annum).

Mr. D. G. Potter (School of Architecture, The Polytechnic, Regent Street, London—R.I.B.A. Houston Maintenance Scholarship of £125 per annum).

Mr. H. R. Brady (Bartlett School of Architecture, University of London—THE BUILDER Maintenance Scholarship of £68 per annum).

Mr. D. S. Bremner (Aberdeen School of Architecture, Robert Gordon's Technical College—R.I.B.A. Houston Maintenance Scholarship of £125 per annum).

Mr. B. E. Clack (School of Architecture, The Polytechnic, Regent Street, London—R.I.B.A. Houston Maintenance Scholarship of £125 per annum).

Mr. A. G. H. Morrow (Department of Architecture, The Northern Polytechnic—R.I.B.A. Houston Maintenance Scholarship of £125 per annum).

Mr. W. B. Sidnell (Bartlett School of Architecture, University of London—R.I.B.A. Houston Maintenance Scholarship of £125 per annum).

R.I.B.A. (Archibald Dawnay) Scholarship 1952-53

The R.I.B.A. (Archibald Dawnay) Scholarships for 1952-53 have been awarded as follows:—

A Scholarship of £60 to Mr. N. R. Grimwade of the School of Architecture, Architectural Association.

A Scholarship of £60 to Mr. J. D. Robertson of the School of Architecture, Edinburgh College of Art.

A Scholarship of £60 to Mr. K. G. A. Feakes of the Oxford School of Architecture.

A renewal of the Scholarship of £60 awarded for the session 1951-52 to Mr. B. G. Jones of the School of Art, Nottingham College of Arts and Crafts.

A renewal of the Scholarship of £60 awarded for the session 1951-52 to Mr. I. R. Langlands of the Department of Architecture, The Northern Polytechnic, London.

A renewal of the Scholarship of £60 awarded for the session 1951-52 to Mr. H. B. P. Watson of the School of Architecture, Robert Gordon's Technical College, Aberdeen.

COMPETITION

Dow Prize Competition

The Illuminating Engineering Society offers a prize which will be awarded to the winners of a competition intended to encourage collaboration between students of illuminating engineering or of those branches of engineering concerned with illumination, and students in other fields in which applied lighting plays an important part. While entries from individuals are not excluded, the competition is primarily intended for students (under the age of 26) working in collaboration. The competition will be set and judged by a panel of Assessors appointed by the Society in co-operation with the R.I.B.A. and the Institution of Electrical Engineers.

Premium: £75 (and a certificate to each member of the winning team).

Certificates of commendation will be awarded to any other entries of outstanding merit.

Last day for submitting designs: 30 November 1952.

Relevant documents with instructions as to the form which entries should take and forms of application may be obtained from the Secretary of the Illuminating Engineering Society, 32 Victoria Street, London, S.W.1.

ALLIED SOCIETIES

Changes of Officers and Addresses

Devon and Cornwall Architectural Society, Plymouth Branch: Hon. Secretary, G.F. Spray, 43 Gifford Place, Mutley, Plymouth.

South-Eastern Society of Architects: Mr. Colin H. Murray [*F*], Hon. Secretary, should now have correspondence addressed to him at 14, Chantrey House, Buckingham Palace Road, London, S.W.1. (SLOane 0397).

South-Eastern Society of Architects, Brighton Chapter: Hon. Secretary, F. E. Green [*A*], College of Art, Grand Parade, Brighton.

Bucks Society of Architects Students' Course

The Bucks Society of Architects held a very successful students' week at Missenden Abbey

from 7 to 14 September. The students were set the task of designing the various buildings making up a small new neighbourhood unit for Great Missenden, and some interesting schemes were produced. Other students just beginning their training prepared measured drawings of certain Georgian details in the village.

In addition to these schemes, which were criticised by Mr. J. R. Tolson [*F*], Principal of the School of Architecture and Building, Oxford, there were evening lectures given by the following:—J. Brandon-Jones [*A*], The History of the Domestic Unit; A. B. Waters, M.B.E., G.M. [*F*], Domestic Construction; J. M. Harries [*A*], Architectural Designs and Colour; R. W. Cave [*A*], Some Architectural Conclusions.

At the conclusion of the course a dance and concert were held.

GENERAL NOTES

R.I.B.A. Golfing Society

The Autumn meeting of the Society was held at the Berkshire Golf Club on 25 September. In the morning, the Selby Cup was won by H. St. John Harrison [*F*], with a score of 84—15=69. The runner-up was P. Hickey [*F*], with a score of 81—9=72. In the afternoon the foursomes bogey competition was won by A. D. McGill [*A*], and F. Sutcliffe [*F*], with a score of 3 up.

At the Annual General Meeting in the evening, Col. A. E. Henson [*F*], was elected Captain for the next season.

The Honorary Secretary would like to inform all members of the Society that the ties are now available at 22*s.* each, and can be obtained on application to the Honorary Treasurer, G. Felix Wilson [*L*], 4 Russell Gardens, Kensington, W.14.

Members' Column

This column is reserved for notices of changes of address, partnership and partnerships vacant or wanted, practices for sale or wanted, office accommodation, and personal notices other than for posts wanted as salaried assistants for which the Institute's Employment Register is maintained.

APPOINTMENTS

Mr. John Smith, Dip. T.P. [*A*], previously Branch Architect for the County Borough of Southampton, has taken up the position of town architect and planner to the Newry Council, Co. Down, where he will be pleased to receive trade catalogues, etc.

Major L. A. K. Henrickson [*A*] was appointed earlier this year as Senior Architect to the Northern Rhodesian Government. His address is now Public Works Department, P.O. Box 137, Lusaka, Northern Rhodesia.

Mr. Aditya Prakash [*A*] has been appointed Junior Architect to the Punjab Government Capital Project, Chandigarh, India, and would be pleased to receive trade catalogues, etc. at this address.

PRACTICES AND PARTNERSHIPS

Mr. John Wade [*A*], formerly of Birley Wade and Stockdill, 1020 Government Street, Victoria, British Columbia, announces that he is no longer in association with Mr. S. P. Birley, and that the practice will now be styled **Wade and Stockdill** at the same address.

Messrs. Burrough and Hannam [*F/A*], of 17 Orchard Street, Bristol 1, have taken into partnership **Mr. David Morris** [*A*]. The name and address of the firm will remain unchanged.

Mr. Leslie T. George [*L*] announces that he has entered into partnership with **Mr. Geo. A. Hobden,** and as from 1 September 1952 is practising with him as **Messrs. Hobden and George,** Bedford Row House, 58 Theobalds Road, W.C.1. (HOLborn 2624.)

Mr. A. B. Grayson, A.A.Dipl. [*F*], has opened an office at Hill House, Wincanton (Wincanton 3355), and wishes to receive trade catalogues, etc.

Mr. R. Harley-Smith, A.M.T.P.I. [*A*], and **Mr. D. Steel** [*A*] have entered into partnership and taken over the practice of **F. P. Trepess and Son.** The firm will continue under the title of **Trepess, Harley-Smith and Steel** from the present address at 1 Church Street, Warwick, where they will be pleased to receive trade catalogues, etc. (Tel.: Warwick 19).

Mr. J. C. Holmes [*A*] has begun practice at 93 Hope Street, Glasgow, C.2, and will be pleased to receive trade catalogues, etc.

Mr. A. Beaumont Owles [*A*], practising under the style of **Bostock and Partners,** announces that the telephone number of his new offices at Ide House, 12 Fife Road, Kingston-upon-Thames is KINgston 7281. The telephone number and address of his main offices at Southall remain unchanged.

With reference to the notice of dissolution of the **McDonald and Brown** practice which appeared in the August JOURNAL, **Mr. D. Garth Pepperell** [*A*] has become a Junior Partner in the firm of **George Brown and Partners,** which is continuing to practise from 1 Unity Street, College Green, Bristol, 1, 43 Long Street, Tetbury, Gloucestershire, and The Market Cross, Malmesbury, Wiltshire.

CHANGES OF ADDRESS

Professor R. Gardner-Medwin [*F*] has changed his address from 1 Gilmour Road, Edinburgh, 9, to The School of Architecture, Leverhulme Building, 26 Abercromby Square, Liverpool, 7.

Messrs. Harrison and Seel [*A/A*] have moved their office to 38 Holland Villas Road, Kensington, W.14. (BAYswater 0163).

The new address of **Mr. E. W. Miles** [*A*] is **Dr. E. May and Partners,** Ralli House, Mombasa, Kenya.

Mr. Arthur F. Smith [*L*] has removed to Narrow Water Cottage, The Avenue, Branksome Park, Bournemouth West.

Mr. John Wilkinson [*A*], of **McCutcheon and Wilkinson,** has recently moved from the firm's branch at Coleraine, Co. Derry, to the office at Ballymena. All communications should now be addressed to him at 21 Wellington Street, Ballymena, N. Ireland.

PRACTICES AND PARTNERSHIPS WANTED AND AVAILABLE

Fellow requires a partnership in Northumberland, Cumberland, Durham or North Riding. Considerable knowledge of town planning and surveying in relation to valuation and experience in all sections of the profession. Apply Box 62, c/o Secretary, R.I.B.A.

Associate, 39, with general all-round experience, desires partnership, or position leading thereto, in Merseyside area. Capital available. Box 68, c/o Secretary, R.I.B.A.

Associate seeks partnership or position with prospects thereof. Capital available. Box 70, c/o Secretary, R.I.B.A.

Associate, 36, diplomas in architecture and town and country planning, with good varied experience and own small practice, seek partnership with well-established architect in London; capital available. Box 72, c/o Secretary, R.I.B.A.

Two junior partners required in old-established West Country practice; school trained and experienced in shops, housing, factories and churches. Box 75, c/o Secretary, R.I.B.A.

A.R.I.B.A., A.M.T.P.I., with 25 years' good general London experience, including central government, desires partnership or position leading thereto in England, Ireland or overseas. Some capital available. Box 76, c/o Secretary, R.I.B.A.

FOR SALE

For Sale. Double elephant drawing board, £4 4*s.*; *Drawings of Leonardo da Vinci* (E. Popham, Jonathan Cape), £1 10*s.*; *History of Architecture*, Banister Fletcher (unused copy) £2; *Roman Portraits*, Phaidon edition, 15*s.* Box 69, c/o Secretary, R.I.B.A.

For Sale to best offer, Banister Fletcher's *History of Architecture* (4th ed.), rebound in 2 vols. with original case as cover, in new condition. Box 73, c/o Secretary, R.I.B.A.

Member has for sale a number of duplicate text-books and general architectural works, including a Banister Fletcher; *The Architecture of England*, by Gibberd; *The Architecture of Ancient Rome*, by Anderson, Spiers and Ashby; *The Principles of Architectural Composition*, by Howard Robertson; *Architectural Drawing*, by Hake and Button; *Applied Perspective*, by Holmes; *Architectural Building Construction*, Vol. I, by Jaggard and Drury; *Building Construction* (*Elementary and Advanced*), by Mitchell; *The Principles of Modern Building*, by Fitzmaurice; *An Introduction to Structural Mechanics*, by Reynolds and Kent; *Experimental Building Science*, Vol. II, by Manson and Drury; *Specification* 1941, together with H.M.S.O. and other publications List on application to Box 74, c/o Secretary R.I.B.A.

ACCOMMODATION

To Let. Bloomsbury district, spacious second floor office, approx. 17 ft. 6 in. by 17 ft. 6 in., well lighted with quiet outlook. Newly decorated, all services available. Box 71, c/o Secretary, R.I.B.A.

Member urgently requires office accommodation of about 600 sq. ft. in four or five rooms in W.C.1, W.1 or S.W.1 districts. Box 77, c/o Secretary, R.I.B.A., or 'phone CITy 4686.